

Introduction to Computer Architecture

Assignment 2

Question 06 Compilation

Of millions of advice you've been told, the one I prefer is enjoy being you.

I hope you really enjoyed the class (at least for some moments) so far. I truly appreciate your trust and your continuing support, understanding, tolerance, and cooperation. Ever since we met, I keep working on how to provide you with a satisfactory learning experience in return.

For almost all previous editions of this course, an assignment question sought to solicit thoughts and suggestions from the participants. For example, do you gradually understand strategies or things from different perspectives and weigh their tradeoffs? What do you think is the real challenge for you to learn this course? Do you consider interactions in class helpful? What held you back when you were trying to ask or answer questions in class? What suggestions (for better learning this course) would you like to provide to other students? What help or assistance would you like from me or other students? All their [thoughtful and constructive feedback](#) has encouraged us toward a more rewarding computer architecture class.

This time, I would like you to introspect beyond this course. Taking a course should be rewarding in many possible ways. As we discussed in the first lecture session, even if you may barely practice computer architecture principles after the class ends, if whatever you learn through this class---whether it be computer architecture per se, a philosophy it implies, a study tip or inspirational quote we share, or a new friend you know---keeps driving you toward your greater self, this course fulfills its mission.

In particular, you are highly expected to develop a clear vision and be determined to strive for it. Most students in the computer architecture class are junior. The third year cannot be more decisive for your future. If you aim to work in an IT company after graduation, start practicing skills that help you ace the interview. If you plan to pursue a higher degree, join a research lab to cultivate research experience and application materials. If you have not decided, do both if your time and energy permit, see which one you really prefer. Try to make your decision based on your own goal and experience. Work with people who keep your interest and passion alive. It is really, really important to identify a right role model to emulate and learn from. It is also highly decisive to focus on what really is essential, especially given that [some of constantly emerging paradigms might turn into hypes and fade away](#). Stick to golden rules that should be objective during the selection. It should not be simply about what one claims to be or what one claims others less so. "See the world not as it is, but as it should be." Think of the proverb "shallow brooks babble loudest, still waters run

deep” once in a while. (Or as sg put it: “shallow water hualahuala, deep water kckc.”) In return, be part of the initiative that motivates yourself and people around you.

Meanwhile, if you ever consider assistance from me as possibly helpful, whether course related or beyond, never hesitate to reach out. As I proudly claim on my webpage, I am always proud to be part of the journey for someone to excel. And I am pretty sure that I would also love to be part of yours as well.

???Therefore, with this question, I would like you to share your thoughts on your goal and plan. For example, what is your goal after graduation? What is your plan to achieve that goal and what challenges might be involved? How do you manage to be motivated and determined? What helpful advices or suggestions did you get from senior students and professors? What suggestions would you like to offer peers with similar goals? Or, it is possible that you are still finding your goals. Don’t rush and take your time. Being at such a young age, you have infinite possibilities to live your dreams. “Commit to something and commit hard. Doesn’t matter if you switch later. It’s easier to prove yourself if you’ve had to do it once before.”

“Where are you? Here.
What time is it? Now.
What are you? This moment.”

“Old urges continue to arise, but urges do not matter; only actions do.”
“A warrior is as a warrior does.”

“While they are deciding, make even more art.”

So pleeeeeease, live a life you deeply enjoy and will remember.

If not now, when?

00

Thanks for sharing your thoughts and for all your suggestions and acknowledgements.

I would like to share with you this anonymous compilation of all the collected feedback. As you may see, whatever you feel about and dream of, you are probably not alone. It is a perfect way to understand more of our peers and resonate with them. “If you don’t walk out, you will think that this is the whole world.”

For 2020 Computer Architecture, I took much time to write replies to all 56 compiled feedback. The first one went for the first mx handing in Q25. However, I did not manage to do that again so far. Yet you are always more than welcome to contact me to discuss about your study and career plans. It is the least I could do to show my appreciation of your trust in me and dedication to this class. Feel free to reach out whenever you’d like to talk.

Of millions of advice you’ve been told, the one I prefer is enjoy being you.

Embrace life’s big adventure and devote to enjoy the best things in life.

BE A LIGHT, SHINE YOUR WAY

Wish you a joyful ride on every adventure you take!

01

- My English is not good enough to express my ideas,so I write something in Chinese and translate it to English. And I commit both of them because I believe that the translation process will lose the original flavor of the text. And here are some boring groan about my life and study.
- 有时候我其实挺羡慕老师您的，因为我感到您是真正在做自己喜欢的事情，不论是课堂上还是平日里，我都觉得您是一个有趣的老师。进入大学以来，我都处于一个“得过且过”的状态，很长时间以来我都不清楚自己学习的、所做的东西是否是自己真正喜欢的。很多课程，我连做到理解都很困难，更别说擅长了。这导致了一种恶性循环，学不会就越不想学。同样的，我的生活中充斥着大量无意义的娱乐，以此来“kill time”，一边羡慕别人的同时又想要努力去过别人羡慕的生活。我有很认真地思考过自己的未来应该是什么样的，但是我始终找不到一个答案。现有的标准答案给人一种窒息感。我记得第一节课的ppt的第一页就是wow，我并不明白这是什么意思，但是我从中能感受到一点您对于生活的乐观态度。如果有机会的话，我希望能当面和您聊聊，我想那会是一件于我而言很荣幸，很幸运以及很幸福的事情。
- "At times, I find myself envious of you, teacher, as it seems that you are genuinely engaged in what you love, both in the classroom and beyond. I perceive you as an intriguing educator. Since my entry into college, I have been navigating through a phase of uncertainty. For an extended period, I have struggled to ascertain whether my studies and activities truly align with my passions. Many courses elude my comprehension, making it challenging for me to excel in them. This creates a detrimental cycle where diminished learning leads to decreased motivation to learn further. Likewise, my life is often filled with trivial distractions aimed at 'passing the time,' while simultaneously envying others and attempting to lead a life that garners their admiration. I have contemplated deeply about what my future should entail; however, clarity remains elusive. The conventional responses available feel stiflingly inadequate.

I recall that the first slide of your presentation during our initial class was simply titled 'wow.' Although its meaning escaped me at the time, it conveyed your optimistic outlook on life quite vividly. If given the opportunity, I would greatly appreciate engaging in a face-to-face conversation with you; such an encounter would be a tremendous honor and source of joy for me."

02

我毕业后希望去做游戏开发相关的工作，尤其是客户端。事实上我已经在这方面做了一些努力，您知道我是延毕的学生，去年这个时候我找到一份在杭州小厂的工作，wlb，公司也很欣赏我，希望我能够加入，工资开得很不错。

我因为延毕推掉了这份工作，自己认为还是挺可惜的——然而人生就是要不断向前，我们什么时候都不能失去重新开始的勇气。

今年我又在秋招季忙活了，自己给自己的定位大概是无法像社会观念里的菁英那样步入大厂、一直晋升直到打工人的顶峰。我所追求的生活就是有一个不错的收入，能在下班后安居在出租屋里享受自己的生命，同时能够在个人的积蓄上有所增长——这样的观念是我去找类似去年那样的工作的最大动力。30岁以前，我都想这样生活，在30岁之后，我很可能会用我的积蓄开启下一段人生，不做计算机相关的事情了。

03

What benefited me the most in this course was the concept of **Make common case fast**. In my opinion, many ideas in computer architecture design are actually similar to many problems encountered in life. Perhaps, when the pioneers of computer system design faced problems, they also sought inspiration from life.

Now I am also slowly embarking on the road of life choice. Unlike a year or two ago, I only had such a simple goal of learning and studying, and I didn't have to think so much. I have already completed half of my undergraduate life in college. It seems that I don't have a mind to determine the career choice, and there are few things that really make me passionate. I feel confused and a little panic, but maybe this is life.

In the study of computer architecture, I realized that the computer system is actually a completely man-made thing. There is no such perfect design. Only by thinking and improving little by little in the face of problems and needs, I am gradually convinced that the knowledge in textbooks has never been the truth. It is just a temporary view, but the light of wisdom will always shine. I think, although I don't know what path I will eventually take, I hope that in the process of studying and working hard, I can meet some interesting people and do something I really love, although this seems a bit difficult.

I would like to thank the teacher for his help in the computing system course. Although my English is very poor, I can't understand much in class and can only read books and learn by myself, but in this process I can fully see the teacher's enthusiasm for teaching and educating people, which is really rare in this era. I was a little moved during the confusing learning process.

04

- First and foremost, I'd like to sincerely thank you for assigning me this topic. In college, I've admittedly struggled academically; for various reasons, I couldn't complete several courses as planned over the past few years, leading me to extend my studies to make up for what I missed. Looking around, I see many of my college peers advancing to promising graduate programs or securing high-paying jobs, while my high school classmates have mostly progressed smoothly to the next phases of their lives. While I tell myself not to rush or feel disheartened, I can't deny feeling a bit envious.

Still, I believe it's never too late, and that moving forward steadily and with purpose is essential. My future aspirations aren't overly ambitious—I hope simply to find a stable job that provides a healthy work-life balance. A high salary isn't a priority; I just want security and balance in my life. To achieve this, my focus now is on completing my degree and preparing for job applications as soon as possible, gathering the experience and skills needed along the way.

I'm determined to pass this course, and I'll give it my all. In terms of challenges, I realize that my academic foundation and prior setbacks make learning in this field challenging at times. However, I'm committed to catching up and making progress. If I encounter difficulties beyond my capacity, I'll not hesitate to reach out for guidance and assistance from you. Thank you once again for this opportunity.

05

My undergraduate study process can be described as bumpy, there are confusion about professional learning, but also my own overindulgence bitter fruit. Now, my goal after graduation is to go back to my hometown to work, but since my professional knowledge is not strong and my life goal is stable, I prefer to seek a civil servant position, which I have figured out by myself after talking with many teachers and counselors. Therefore, I need to prepare for the position selection and exam preparation content in my spare time. First participate in student work, participate in grassroots social practice, and then screen the positions of their professional counterparts. My feelings for my hometown and family are the driving force for me to practice this goal. The picture I look forward to most is the family reunion, a stable, secure and healthy life, so I stick to my memoir. Although it will not be smooth, I know that this is the path I should take.

06

Regarding the course:

In the process of learning, I have gradually come to appreciate the idea of weighing the pros and cons. More importantly, I have come to understand that when faced with problems, many times we cannot get a perfect solution, and we should focus more on the main aspects. Perhaps we can improve the more important aspects by sacrificing some minor aspects. But there are also some unsatisfactory aspects in the classroom. As mentioned in the assignment: 'What held you back when you were trying to ask or answer questions in class?' From the overall pace of the class, every question or discussion seems to abruptly come to an end in a discordant passage. I think this is largely due to the fact that all courses are taught in English. Of course, I'm not saying that teaching entirely in English is not good at all, but rather, in terms of our English proficiency, just keeping up with the class is already considered a small difficulty. In this situation, it's actually quite difficult to be able to quickly respond. I suggest that if you want to initiate a discussion or ask classmates questions, you can use Chinese, which may make the rhythm less interrupted. Finally, perhaps there could be more assignments like Assignment 2 because there are too many knowledge points in this course, and it's easy to miss the key points just by looking at the PowerPoint presentation. It may be better to combine some exercises.

Other casual conversations:

Regarding what you wrote in the article, I can only say that I am learning knowledge that interests me every day, that's all. For a student, I think this is already enough.

07

一、毕业后的目标

我的目标是进入一家稳定的优秀的企业，从事与计算机相关的工作。通过实践，我希望能够将所学的计算机（体系结构）知识应用到实际项目中。

1. 学习与技能：在剩余的大学时间里，深入学习计算机专业知识。同时，加强对编程语言（如 C、C++、Python）的掌握，提高编程能力。挑战：课程有难度，需要投入大量的时间和精力进行学习。
2. 实践经验积累：参与实验室项目或开源项目，积累实际的开发经验。通过与团队合作，学习项目管理和团队协作的技能。挑战：找到合适的项目并融入团队可能需要一定的时间和努力。在项目中可能会遇到技术难题和时间压力。
3. 实习与求职：争取在知名企业实习，努力表现自己，获得知识技能。挑战：面试过程中可能会遇到各种挑战，如技术问题的解答和案例分析。

三、保持动力和决心的方法

时刻牢记自己的目标，激励自己不断努力。与同学、老师和行业人士交流，分享经验和想法。从他们的成功和失败中学习，获取动力和启发。保持对新知识的渴望，不断学习和探索。

四、从学长和教授那里得到的建议

1. 注重基础知识：计算机专业课基础知识非常重要，要扎实掌握。这些知识将为未来的学习和工作打下坚实的基础。
2. 培养实践能力：通过参与项目和实习，积累实际经验。
3. 建立人际关系：与同学、老师和老学长建立良好的关系。
4. 保持学习热情：技术在不断发展，要保持学习的热情和好奇心。不断探索新的领域和技术，提升自己的竞争力。

五、给有类似目标的同龄人的建议

1. 制定计划：明确自己的目标，并制定大致的计划。随后将大目标分解为小目标，逐步实现。
2. 勇于尝试：在实践中积累经验，不断成长。
3. 团队合作：学会与他人合作，共同解决问题。同时也可以学习他人的优点。
4. 关注行业动态：关注计算机领域的最新动态和趋势。了解行业的发展方向，为自己的未来做好准备。

08

I hope this message finds you well.

I have really enjoyed this class so far, as you have provided me with a slightly new style of lectures compared with other professors and intriguing assignments. You have dedicated yourself to adding more interactions and discussions in the lectures, making them less tedious. As most of the contents about cache, naive 5 stage pipeline and memory have been covered in organization course, it is boring and time-wasting to introduce them again in this course, in my perspective. I hope the syllabus can be improved the next semester.

That's enough for the course, let me talk about my goal and plan. I favor doing research and pursuing a higher degree in the future. What I'm not sure about is whether to study abroad and whether to pursue PhD directly. While I'll be exposed to fresh new education systems and cutting-edge research methods, being the minority in society and distant from home makes me hesitate. I know you have studied in HK, and I'd appreciate it if you could provide me with precious suggestions and opinions on academics and living abroad from your perspective.

I always keep myself motivated by small achievements in daily life, such as finishing a challenging course project in high quality, completing homework smoothly, and so on. It's a powerful method of letting you know you are great, capable, and even competitive. thus building up confidence and getting energized. The advice, or specifically a sentence I want to share from professors is that: What defines your altitude is not your aptitude, but your attitude. Just be positive for anything unknown coming to you.

By the way, I like computer architecture, especially the elaborate and sophisticated designs, that come from the ingenuity of mankind.

There is much more I could say, but I will conclude here. I wish you continued success in your teaching and research career.

Kind regards,

This is both a simple and complex question. I've think of it all the time and tried to formalize it but still have no actual specific results. As a result, the reader might find the following word in a bit mess and I feel it too.

In the following words, I'll mark some words with [word1|word2|...|wordn], this means the word is very likely to have complete different meaning for different people and I'm using it loosely to just give a basic vibe and will not be bothered to fully explain it.

I'll also assign variables for these kind of word with [x=word|...|wordn] and use it like [\$x] to explicitly notify the reader the inaccurate property of these words. These notation can be nested like [word1|[subword] word2|word3].

Before the main question, I'd like to lay down some ground work. To me, the question of goal is not fundamental enough, there's more fundamental question of [x1=belief|view on the world|axioms|world view]. And goals are direved from these [\$x1].

So, what is my [\$x1]? This is an extremely difficult [q=problem|things to think of|idea] because what every I want to create and analyze, I must have to think about it in my current informal state of [\$x1] and express it through natural language. This makes it very hard to think and express, the multiword is one of the experiments for expressing [obj=thing|object|an unit of arbitrary [\$obj]]. As a result I still haven't made a formal description of [\$x1] and everything I'm about to say is just a gross and inaccurate description.

First, I [x2=believe|take as fact|take as axiom] that the fuondamental of the [x3=world|things I interact with|everything] is [problems] and [solutions], and the two [\$obj] interact with each other by the act [solveing]. Though this [prop=logic.proposition] is summarized from some of my ideas(like that I consider myself an [engineer|a person who identify and solve [problems]]), the [\$prop] it self is completely arbitrary and have no acctual meaning(because every noun in the sentence is not formally defined), they are just like variables in lambda expressions or church numbers, we have an idea of what can it do, but on there own, they are just arbitrary things interacting with each other with a given rule set.

Second, my interraction with the [\$x3] is by [finding] [solutions] to these [problems]. Here I finnally have a logical starting point to work on, with this, I can construct my design target for my [\$x1]:

- * the [\$x1] should be benifitial to [solving] [problems]; this is itself a [problem]
- * construct a [valuing] system to measure how [good] am I doing; this [\$obj] may be phrased as [values]
- * get a list of [problems] that need to be [sovled]; this [\$obj] may be phrased as [outlook on life]

For the first target, it comes from a [pragmatistal] idea for the [purpose] of this [\$x1] to justify its existance. For the second target, there will be an arbitray function that should be [inplemented] differently for [every] [problem] and the function will be called efficiency and effectness and takes in the [context], the [problem] and the [result] to output a [\$obj] that can be compared.

For the final target, I can finnally start with my goals.

The first goal is [existance], which is the [problem] of how to maintain [my] the status of [existance].

The second goal is the [ability] to find [solutions] to [problems].(this goal can be

applied recursively to cover all cases)

These are the only two goals that will be considered an [axiom|things taken as granted]. From here I can generate sub goals from these two goals and target 1 and target 2. Because it's beneficial to subdivide problems into subproblems to make it easy to solve.

For the first goal, the first subgoal is to define the word existence, different definition will make it completely different problems. Here I categorize everything in the [x4=materialistic world](note the different with [x3]) into [material], [energy] and [information] and I consider [existence] an function on [information], this is an design choice respecting the feasibility of technological and of security.

And the word "my" should also be defined, I haven't got a clear definition, so I'll just use [me, the human|human|the ideas of me|the ideas of human|the statistic average of human|the whole [x1] itself with and without the definitions]

And for the second goal, there are [xobj] that will effect my [existence], and among everything in [x4], [information] is the most important so gaining and managing information is the most important subgoal. To achieve this goal, there are even more problems, for example, the functional limitation of human body both in data capacity, calculation speed and time. Both the problems of having too many different ideas and too less. etc.

Here, finally, some goals that is not arbitrary nonsense can be formed. To achieve the previous subgoal, there will be more subgoals.

- * learn everything, everything that might be [useful] and try to use them. Knowledge is [sacred, jokingly] and should be acquired at the most [acceptable:context.function] cost.
- * try to find way to solve the limitation of human body, both physically and mentally
- * try to solve the problem of the low efficiency and chaotic of current implementation of human collaboration.

From these 3 goals, the first one is eternal, and does not need special treatment, it is always an on going process. The third one is important, hard and not urgent. The second one is both important and urgent. Since given the current situation, and architecture of our physical body, death is inevitable, especially since it is an one point catastrophic failure.

So, continue on expanding the goals, how to solve that? Given the current status of science advancement and advancing speed, I consider improving on the current architecture is not an viable option which is bound to fail and even in success, it is just buying time for innovation in architecture. So the subgoal will be to understand the current architecture of human thoughts, both physically and mentally as well as creating the basis of possible architectures based on other existing technology.

And this will be the final layer of subgoals I'll discuss today. It's not that there's no more layers, it's just that the layers below is constantly changing depending on the new technology and new information I acquired.

10

After graduation, I aim to land a dream job at a top company.

I plan to create a schedule and stick to it. Balance my time between studying, working on projects, and networking.

Set clear goals, Having specific, measurable, achievable, relevant, and time-bound goals help me stay focused and motivated.

Helpful advices or suggestions I get from senior students and professor is to prepare early.

suggestions I would like to offer peers with similar goals is to be persistent, don't give up easily., persistence is key to achieving goals.

11

For me, the biggest challenge in learning the course on computer architecture might be English listening and speaking. Although the teacher reminded us before the course started that if we couldn't accept the standards of an international course, we should consider switching to another teacher, changing courses isn't easy for various reasons. Moreover, the other teachers who teach this course don't seem to be as good; none of them are as great as KG. If KG could speak more Chinese during class and slow down a bit while speaking English for clearer understanding, I think I would gain much more from the lectures.↵

↵

Previously, I saw various positive reviews about KG, which I didn't fully understand. However, after reading the message KG wrote to us today, I realized that KG is not just a teacher but more like a "ferry person" in our journey of growth. You genuinely want to understand the confusion and worries we face along the way and hope to provide us with knowledge and assistance during this temporary journey together. First, I want to express my deep gratitude to you. Secondly, I want to share my concerns. Whether you respond or not, I just want to share that I really don't like being 20 years old. There's ignorance, uncertainty, and everything feels undetermined and elusive. It's like before entering college—I didn't know what major suited me, what job I would be fit for, or what my passions were. I almost made a decision that might define my life in just three days.↵

↵

After entering college, I not only fear the unknown but also doubt my own abilities. It seems I can't find the brave version of myself from the past. At the same time, people tend to romanticize paths they didn't choose. I used to think that my previous choice of major was wrong, but later I realized that "who doesn't feel lost in their youth?" Even though I often get caught up in these confusions, I remind myself, just as KG said, that old impulses may arise, but they are not important—only actions matter. All I can do is keep moving forward, working hard first, because right now, the outcome is still uncertain, and any choice I make could just be empty talk.↵

About class

To be honest, I just see this course as one of my core subjects that requires an exam. Last semester, while studying computer organization—or even earlier when I first got introduced to hardware—I realized that I'm not really interested in these topics. The main reason I haven't completely given up yet is thanks to the great teachers I've had along the way.

For me, the biggest challenge with this course is keeping up motivation, since it's hard to approach it with genuine interest. But that said, I do feel a sense of accomplishment whenever I finish an assignment or lab project.

I'm not sure I'm in a position to offer much advice to my classmates, since I'm mostly just focused on keeping up with the required content rather than diving deeper into the material. However, if possible, I'd really appreciate it if the instructor could provide more practice problems with solutions—not as additional assignments, just as extra resources. This would help me get a better grasp of the material. (And, if I may add, no additional homework, please—thanks very much!)

About future

I plan to pursue a PhD because, given the current state of the computer science field, I believe it's essential to have a PhD to make meaningful contributions. From what I've learned so far, I feel a strong interest and enthusiasm for this path.

To prepare, I intend to join a research lab where I can learn from my advisor and more experienced students. I'll need to balance my time carefully, and one priority will be to read as many papers as I can in my field of interest. Right now, I'm still a beginner and not deeply familiar with the area, so expanding my knowledge base is crucial. I think this preparation will be invaluable for when I start exploring and learning independently.

To stay motivated and committed, I'd really like to surround myself with people who share similar interests and have a positive outlook on life. Having like-minded peers makes the learning experience much more enjoyable and keeps my energy up.

If possible, I'd also like to learn about the journeys of those who came before me, particularly the pivotal moments in their paths to research. Understanding why they made certain choices and receiving advice on planning out my early-stage learning would be incredibly helpful. Right now, I only have a rough idea of my future goals, and I don't know exactly what this path involves or whether I'm fully suited for it. Practical advice from experienced researchers would be a huge help in guiding me forward.

13

Throughout my academic journey, I haven't focused much on research-related matters. Last semester, I ventured into the field of image generation models, but I encountered challenges in both reading papers and practical implementation. I found it difficult to grasp the complex concepts presented in the literature, and translating those concepts into practical applications proved to be quite daunting. This experience made me realize that my initial interest in this direction wasn't as strong as I thought. Consequently, I decided to shift my focus back to completing my coursework.

In the current course, I anticipate encountering similar challenges, particularly with understanding advanced topics and applying theoretical concepts in practical scenarios. I think it would be beneficial if the course could incorporate more hands-on activities, such as coding exercises or group projects, to help students better grasp the material. Additionally, providing more resources, like tutorials or workshops on reading academic papers, could help demystify the research process for those of us who are less experienced.

Currently, my goal is to work in the industry after completing my master's degree. However, I haven't yet found a specific area that truly resonates with me. I plan to explore various topics and opportunities this semester to gain a better understanding of my interests. By trying out different projects, I hope to discover what I am genuinely passionate about and make more informed decisions about my future career path.

In this process, I'm motivated to remain open-minded and to seek guidance from peers and mentors. I believe that with time and exploration, I will find a direction that excites me and aligns with my goals.

14

Please allow me to convey my sincere gratitude to kg for your suggestions. You're so considerate and affable, cherish all of students and are the best teacher I have ever met. Please be confident and trust yourself!

It is quite a time to consider my future, or a bit late. Many professors say that you should have a goal, but I was always wondering what a goal is. Is it achieving some research progress or making a great contribution to a specific field? The premise of this may be that you are quite familiar with this field, otherwise makes no difference with the dream that everyone has when they are child — be a scientist. Is it being ~~a~~ some type of person, going to your dream school like Stanford or the work you want to do in the future? When I wrote, I suddenly understand Is it necessary for a goal to be a goal? Maybe what we need is just something that push you forward, push you away from your comfortable zone, push you away from wasting your time on meaningless stuff, just like what I do in half time of my last two years. I formally start my scientific ~~research~~ research from last summer vacation, although I didn't do sth. big at that time, the new techniques and ^{the} accomplishment I get from those small things I do encourage me to go further, even though the process may be frustrating. So the ~~good~~ goal for me is just something you like and are willing to spend time on it. The accumulation of each day will finally make a big difference.

Here are three sentence for me:

- " Brave people enjoy the world first" — for the ignorant and coward me
in the past (and now)
- " Make everyday counts" — for now
- " I haven't thought it out!" — for future.

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p.s. I would really appreciate feedback and would also like to have time to chat with you, to hear your advice on my junior year and the years ahead.

Dear Prof. Kai,

First I want to wholeheartedly thank you for your devotion into this course, which has definitely made a difference to me. I really appreciate what you have mentioned in this 'Question 6'. (Also want to share with you that the other day when I wrote my statement of purpose to apply for the Berkeley Global Access program I found on Google your thoughts about how to write statement of purpose and it really helped! What a coincidence!)

So I'll briefly talk about my future plans and how I have made my decisions.

At this moment, I have made up my mind to pursue a Ph.D. (Highly likely in the field of Computer Vision. But if I don't manage to get accepted, I may also consider applying for a master's degree...) I have applied for the Berkeley Global Access program and got admitted so next semester I'll be in UCB for exchange, hoping to experience life abroad and improve my chances of securing a good summer research position. Actually, it's definitely a hard decision to make because going to UCB means that there may be like 50%(or even more) likelihood that I may lose my 保研资格 as I cannot finish all my required courses on time if credit substitution is rejected. So basically, I just give up this opportunity.

It's really interesting because back in my freshman year, I had no desire to study abroad, only wishing to come back to Tianjin (Beijing works) after graduation because I am so sick of this terrible weather in Hangzhou! So what has made me gradually changed my mind? One key factor is a very close friend of mine – my high school classmate who is studying computer science at Tsinghua University. She has always been determined to pursue a CS Ph.D. abroad (maybe since high school), and through our conversations, I gradually changed my mind about doing research and pursuing a Ph.D. abroad.

In my previous understanding, it seemed that pursuing a Ph.D. would require a lot of money, be very difficult to graduate from, and could easily lead to depression abroad. But since she has discussed with me some preparations and timeline for applying for a Ph.D. I just think I might as well prepare for it in case one day I actually decide to choose this path. Therefore, I sought for research study and practice in my sophomore year and I gradually found that I was quite interested in it; I no longer felt that it was a boring or depressing endeavor. At the same time, the more I learned, the less I wanted to work at a major tech company in the future (I think it just doesn't fit my life goals and work life balance really matters to me). When my sophomore year is about to end, she talked to me one day about her anxieties and mentioned the need to do research practice in that summer. I took it to heart and found what she said to be very true so I started looking for summer research opportunities and was very fortunate to get the chance to be a visiting student at Westlake University. (She also mentioned that there's a better chance of finding a good summer research opportunity in America if we apply for exchange programs so we will go together to UCB next semester! Very much looking forward to it!)

It was during my summer research at Westlake University that I have decided to pursue a Ph.D. There, I met and interacted with many talented individuals. My supervisor have just graduated with a Ph.D. from the U.S., and there are undergraduate students from Cambridge and Virginia, as well as top students from other universities in China. Engaging with these exceptional individuals opened my eyes; their various experiences and stories, including their research experiences, has deepened my understanding of the field. I still remember what my the teacher said to me when I asked him that I have heard it's really difficult to pursue a Ph.D. and that you have to have really great interest into the specific research field but I was not sure if I have that much the passion. He just replied to me : don't think of too many things as that important. Actually, personally speaking, conducting research is quite an easy and interesting work compared to so many jobs around which require a lot of social connections, or you might not be able to do the things you are genuinely interested in. It just hit me that why I am taking this so serious as a life-changing decision. To some extent, this is just one of the choices in my life, and I am confident that I can become a better version of myself no matter what I choose. So I just decide to follow my heart!

Basically that's all my story and if I had to say there's a regret, I wish I had a clearer plan during my freshman year and had started engaging with research earlier to find my direction. It would have made the application process or preparation much more relaxed (unlike now, when I'm overwhelmed with a heavy course load this semester because I have an exchange program next semester so I have to take extra courses this semester, plus my research work is exhausting me...).

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Thank you for the good intentions. I can feel the teacher's efforts in this course, and I can also feel the teacher's adherence to his own principles in the teaching process and the "trade off" between maximizing students' learning experience and learning outcomes. I am more grateful to the teacher for asking for our opinions from a caring perspective, and even wanting to provide suggestions or help for our future planning and development. This is something I have never encountered during my undergraduate studies so far, and I am deeply moved.

Regarding the difficulties encountered in this course, I think the main one is language. I understand the need for English teaching as an international course, but the dual factors of lecturers and students who are not native speakers of the language lead to low efficiency in direct absorption in the learning process, and may prefer online listening and learning methods, from the student's perspective. Of course, this problem is not easy to solve, and I have not thought of a better solution.

Overall, I think you can learn a lot through homework and sharing excellent notes, but due to the time dislocation caused by online learning, it is often difficult to answer questions in class.

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The most difficult problem I face is that it's hard to follow the English class and I also want to get some advice on how to find some questions that can help me have a deeper understanding about Computer Architecture. Because I find it's hard to find some other ways to find questions except the exercises on the book.↵

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A discussion appointment is favored.

I plan to continue my doctoral studies at ZJU and work in the gaming industry after graduation.

I have already participated in the BEng-PhD program at CKC college and in return a doctoral position at the CAD&CG lab is assured.

My research focus is on AI, specifically reinforcement learning. However, the scale of the lab cannot support our research. We predicted a certain development trend, but we are unable to carry out the work.

I feel quite confused about maintaining motivation and determination because I can't pursue my research interest in RL and can only work on vision tasks. I don't have a strong passion for AI as a whole. It's the mathematics and control theory of reinforcement learning that fascinates me, while my current tasks just involve evaluating semantic segmentation tasks.

My advisor told me that in the field of AI, we should abandon the textbook-based learning approach. Reading the latest papers and getting hands-on with experiments is the way to go.

I am still searching for what truly interests me. I am grateful to CKC college for providing me with more opportunities for exploration and experimentation outside of class, without being overly concerned about my academic performance.

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My view on future goals is quite realistic. When entering university, people tend to set ambitious goals, which may lead to unrealistic expectations. After entering college, I realized that the ambitious goals you set before college may be quite overwhelming during the semester. In the first year of college, there are many basic courses, and some students who want to strive for higher GPA will blindly pursue high GPA instead of pursuing relatively diversified and all-round development. The interests and hobbies that I wanted to cultivate have gradually faded away in the tight schedule.

I also admit that I am such a person, so I am relatively more realistic about my future goals and development. The initial idea is to take the postgraduate entrance examination. It would be even better if I could apply for postgraduate admission, but my GPA last semester was not ideal, so the pressure of applying for postgraduate admission may be relatively high. So in the future, I may take the path of taking the postgraduate entrance examination. If I can successfully pass the postgraduate entrance examination, I may continue to study the content of the computer's deep learning module. But if I don't pass the exam, I might go to work. In terms of scientific research, I have the idea of doing research, but I have never dared to propose to my supervisor to go to the laboratory, mainly because I am afraid that my knowledge mastery is not enough.

I want to find a time to have a private conversation face-to-face.

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I am very grateful for your idea of collecting students' thoughts. However, I have to admit that the computer architecture course is not an easy course to understand. In the past autumn semester, I thought I had been trying to listen your courses clearly, but perhaps due to issues with pure English courses and my own lack of understanding of oral listening, I was unable to do so. Thank you very much for occasionally emphasizing key parts in Chinese, which has given me a deeper comprehension of the course. In the past, I have learned a lot from experiments. The experiment and PPT help me understand the theoretical knowledge in the classroom, but in my opinion, there is a huge gap between the experiment and the course.

In the past year, I have been very confused about what scientific research is really doing. I don't know what I will be if I develop in this direction in the future. I may have misunderstood scientific research as being too detached from reality, thinking it is a metaphysical thing. I don't know whether it is the scientific research when you are finding the solution of a realistic problem (probably it is what the engineering majors do). Due to my limited knowledge of the scientific research, I don't know whether what I see is the real scientific research.

Professor, I don't know what to say about my present situation: about postgraduate recommendation, about future work, about my physical health and so on. Many things are tightly trapping me. In summary, I know I must go to graduate school and obtain a Master's degree. I don't have much time to try and try again and I don't have chance to fail. The god will not leave too much time for me.

Sorry, it is my fault to talk these things with you. But sometimes I feel I was too hurried to make everything in my life smooth. Even very small thing can change my mind. Anyway, your course is really excellent, and your spoken English is fantastic.

Wishing everything goes well in your work. Wishing you good health.

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After graduation, I hope to secure an opportunity for studying abroad along with a scholarship. If that doesn't materialize, my plan is to pursue my master's degree at Shanghai Jiao Tong University. I also hope to find a job while I'm studying for my master's.

One of the challenges I anticipate is financial pressure. As I mentioned earlier, if I can't obtain sufficient scholarship funding, I won't choose to study abroad. This challenge is akin to the requirements for qualifying for a master's program, as both are dependent on my academic performance. Therefore, I need to work on improving my academic level and skills to meet these demands.

I believe that with determination and a clear plan, I can navigate these challenges successfully and make the most of my educational journey.

Since I was a little child, I have been bad at planning my life. Though people kept telling me about the importance of making a plan, I found it hard to do this, because there is too much uncertainty. Nothing in the world is totally under my control, so it is uneasy to imagine what I will be like ten years from now.

However, when I entered the university, I felt an urgency to make a decision about what to major in, what to do in the future and everything. On one hand, teachers and parents have great expectations, on the other hand, many of my classmates do have clear goals, but I am still confused about my abilities. Even though I chose to major in computer science, I was not so good at coding or understanding the concepts. There was so many nights when I suffered from sleep loss and doubted my decisions. Luckily, I was more resilient than I thought.

Anyway, finally I am a junior now and faced with more decisions to make. Now I typically hope to obtain a master's degree in the next several years and enter a company to do some relative work. However, I do not want to talk a lot about this because I am not sure whether I will get an admission (I try not to care too much about this or I will feel sick). After all, my final dream is simply living a happy life with the people I love, no matter what I achieve or how much I earn.

So let's talk about something less realistic. In the past few years, I have received a lot of support from different people, which makes who I am. Many thanks to those who helped me. As for those who may be reading this, I sincerely hope that you take good care of yourselves, both physically and mentally. Some of my friends used to struggle with depression and I know how awful it feels. The outside world imposes too much pressure on us, which is almost impossible to reverse. But our life is our own arrangements and we do not have to be perfect in everything. In my teenage years, I spent too much energy racing against others, as if they were my enemies. As time goes by, I realize that I do not need to compare myself with others and I am good enough being myself. Everything we experience now is once-in-a-lifetime, so we'd better immerse ourselves in the real world and live our life to the fullest.

The course feedback

我能真切感受到卜老师非常努力的让他的课堂变得不那么“传统”。我认为卜老师更加注重思想的传授，很多时候能用很简单的原理说明很深刻的问题，带领我们从本质上认识到问题。

由于我之前有读过一点点的体系结构相关的其他书籍，对老师上课讲述的内容比较熟悉和有感触。尽管老师是用全英文上课的，听起来会比中文的课程吃力一些，但老师的授课风格和内容编排上让我感到非常有兴趣，自然也能克服语言的困难。

老师的水平相当的高，带给我的授课体验不输国外教授的课程。提一点点小小的建议，感觉课程节奏可能需要注意一下，每次讲解PPT的速度有点忽快忽慢，而且也会遗留一些PPT来不及讲，正好有些是我感兴趣的内容，会觉得十分遗憾。可能是由于班上同学的水平有些参差，所以感觉有时候会在一些比较基础的内容上花了太多的时间，而导致拓展的内容会比较少。

时光飞逝，转眼半学期过去了。感觉目前好像没有学到太多新的知识，期望能再多听几节卜老师的课，多学一些体系结构相关的知识。

I can genuinely feel that Professor Bu is putting in great effort to make his classes less "traditional." You focus heavily on conveying key ideas, often using simple principles to explain complex issues, guiding us to understand problems at their core.

Having read a bit on computer architecture before, I am somewhat familiar with the topics covered in class, which enhances my connection to the material. Although the class is taught entirely in English and feels more challenging than a course taught in Chinese, I find the professor's teaching style and the structure of the content engaging, making it easier to overcome the language barrier.

Professor Bu's teaching expertise is outstanding, on par with that of professors I've encountered in international settings. I do have one small suggestion regarding the class pacing: the speed of going through the slides can sometimes fluctuate, and occasionally, some slides are left unexplained. Some of these skipped topics were particularly interesting to me, so I felt a bit disappointed. It might be due to the varied levels of students in the class, but sometimes it feels like a bit too much time is spent on foundational concepts, which leaves limited time for more advanced topics.

Time flies, and we're already halfway through the semester. It feels like we haven't covered much new material yet, so I hope to attend more of Professor Bu's lectures and learn more about computer architecture.

My thoughts on my goal and plan

由于我大一的时候选择了量子体系结构方向的导师，之前也有幸能在大厂的相关部门短暂实习过，很有感触。可能有很多同学认为目前学的有些知识早已过时，但我发现，这些学校里能学到的知识，就好比脚手架一样，是我们学习更多领域前沿知识的出发点。

对于未来，我的规划是读研究生，目前的打算是保研加直博，能多做一些真正有意义的研究工作。我的终极理想是将量子处理器QPU整合到经典体系结构中，构成量子异构处理系统。先前实习的过程中，我发现原来大厂的工作远比想象中的还要累，“35岁危机”原来并不是笑话。我打算是在博士毕业后找一个体面的工作，钱赚够了就离开一线，如果那时候我对技术还有这么强的执念的话，我会考虑创业；否则就随便找个大学或者大专任教养老。

其实，我最开始学计算机的时候，并没想到我现在所在的处境。我只是单纯觉得设计或创作一些新的东西会让我觉得快乐，而写代码只是一种比较低成本高容错的实现设计的手段。我初中、高中就有开发过一些小软件，对算法、对硬件并不那么感兴趣，只是想着能做出属于自己的游戏，未来找个地方快快乐乐的写代码，让兴趣成为职业，不至于饿死就行。但直到我在中学里埋头苦干，卷来卷去，上岸浙大图灵班后，才发现学院、老师们对我说：你要成为科学家。这是我未曾想过的。

曾经，我母亲劝我以后能从事硬件工作，理由是她听说硬件难学，但待遇好，不会像软件开发一样吃“青春饭”。当时的我是极力抗拒的，我甚至连什么是CPU什么是主板什么是时钟频率什么是显卡都分不清，以为从事硬件工作就是像我曾经开网吧的父亲帮别人插线拔线修电脑而已。而现在，当我上体系结构有关的课程时，就会莫名兴奋，不禁感慨万分。一言以蔽之，期望能做真正有用的事，能做自己喜欢的事，能按自己的喜欢来做事。

Since my freshman year, I chose a mentor specializing in quantum architecture and was fortunate enough to briefly intern in a related department at a major tech company, which left a strong impression on me. Many students may think some of the knowledge we're learning is outdated, but I've come to see this foundational knowledge as a scaffold—it serves as a starting point for exploring cutting-edge fields.

Looking forward, my plan is to pursue a master's degree, and I aim to secure a place for both a master's and direct PhD track, allowing me to conduct truly meaningful research. My ultimate goal is to integrate a quantum processing unit (QPU) into classical architectures to create a quantum-heterogeneous processing system. During my internship, I realized that work in large companies is even more exhausting than I had imagined; the "35-year crisis" isn't a joke. After completing my PhD, I intend to find a respectable job, leave the front lines once I've earned enough, and, if I still feel a strong passion for technology, consider starting my own business. Otherwise, I might find a position teaching at a college or vocational school and enjoy a quieter life.

When I first started studying computer science, I never envisioned where I am now. I initially thought that designing or creating new things would simply make me happy, and coding seemed like a low-cost, forgiving way to bring my designs to life. In middle and high school, I developed some small software projects, not particularly interested in algorithms or hardware. I just wanted to create my own games, find a place to happily code, and, ideally, turn my interests into a profession that could support me. But when I finally secured a spot in the Turing Class after relentless effort in high school, my professors and mentors told me: *You're going to be a scientist.* That was something I had never considered.

My mother once advised me to pursue hardware, believing that while it might be difficult to learn, it offered good career prospects and wouldn't rely on "youth" as software development often does. I was initially resistant—I couldn't even differentiate between a CPU, a

motherboard, clock speed, or a graphics card at the time, and thought hardware work meant something akin to my father's former job running an internet café, where he helped people connect cables and fix computers. But now, whenever I attend classes on architecture, I feel an inexplicable excitement and find myself deeply moved.

In a nutshell, I hope to do work that's genuinely useful, pursue what I love, and approach my work in a way that aligns with my values and passions.

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I plan to continue my graduate studies at my current university and then find a good job. The challenge I face is that many of the computer science courses do not align with my interests. I want to engage in more "software"-focused work, especially in the field of artificial intelligence, but I feel that the content covered in class is more centered on foundational knowledge, making the relationship between my AI studies and classroom learning seem quite distant.

To overcome this challenge, I am actively seeking extracurricular learning opportunities. For instance, I am participating in online courses and lectures about AI to supplement the practical experience that is lacking in class. Additionally, I plan to join some lab projects to gain real-world project experience, which will help me better understand the importance of AI in practical applications.

In terms of staying motivated, I have set some short-term goals, such as learning a new AI-related skill each month or completing a small project. These small goals keep me focused and provide a sense of achievement, motivating me to keep pushing forward.

From senior students and professors, I have received a lot of practical advice, such as how to choose the right projects and how to communicate effectively with others. This guidance has helped me better plan my learning path. I also encourage peers with similar goals to try different projects and internships to discover what truly interests them.

Ultimately, I believe that at this young age, we have infinite possibilities to pursue our dreams. As I understand it: "Commit to something and commit hard, even if you switch later." I hope that through my efforts, I can find a suitable career path and achieve my goals.

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My current plan after graduation is to pursue a master's degree, a goal that requires a solid academic foundation. To enhance my academic abilities, I am actively working on my studies and have also participated in the SRTTP research training program to gain early insights into the practical processes and challenges of research. This experience not only provides me with practical skills but also helps me understand how to apply theoretical knowledge to real-world problems.

To achieve my goal of pursuing a graduate degree, I plan to focus on my course performance in the upcoming semesters, striving for excellent results. Additionally, I intend to seek out more information related to academic opportunities.

During this process, I will face challenges such as academic pressure and time management. However, I believe that with effective planning and time management, I can overcome these obstacles.

To maintain my motivation and determination, I will set both short-term and long-term goals and reward myself upon achieving them.

For those with similar aspirations, my advice is to plan your academic and research directions early, aiming to accumulate relevant experience during your undergraduate studies. Stay curious and eager to learn, and actively participate in various academic activities.

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About Me

I am [redacted] from the mixed class 2208. I am studying computer science. Though the major is called Computer science, I don't agree with the word Science. So far I've taken lots of courses of College of Computer Science in ZJU, and I feel that most of them are highly associate with the word Engineering.

And I believe that Engineering may not suit me best. I like Math and Physics more (which does not mean that I am smart, haha). So, to be honest, courses like Computer Organization and Computer Architecture are not seem so appealing to me. I am more interested in courses like Computer Vision, Computer Graphics and Optimization Theory. Or to say, I am more interested in the intersection part of Math and Computer Science. That part is really useful when doing research in nearly any part of Computer Science. So why I am studying computer science? Computer Science may be the closest to Math among Engineering majors. My goal in this stage is to learn the fundamental part of these two field, and do the most to promote my research. And I want to study abroad to my broaden research view.

But I am not so sure about myself. I am evolving, perhaps.

So, what's my ultimate goal? That is my secret.

Suggestions for the course

I really think that some Engineering thoughts are either trivial or being superficially taught or simply mentioned. I think the better way is to going deep with the important ones and practical ones because some may be outdated or not practically used.

(This may not be a good suggestion) My English is not so good. I will appreciate it if you could explain some key concepts in Chinese in class.

Suggestions for people like me

Learn as much Math as possible if you want to do research because I am so limited by my limited knowledge of Math. Math will save you a lot of time when you are not so sure about your model to some problems.

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As a student hoping to get a good grade at this course, I'm undoubtedly worry about the final exam, worry about whether I have truly understand the knowledge taught in class. But just with the english slides and a few exercises, I can't get the confidence of what I have learned. More assignments are actually my prefer. Also, I'd like to see more examples in the class to show how to use the knowledge, more complex examples than those in the textbook.

As for my plan for future, I have to admit that I's still finding my goals. That doesn't mean I have done no thinkings, but based on my limited views and experiences, I'm still in a state of confuse facing the choice of my life road. Maybe I'd like to work in some IT company? No matter what, I'd like to get a master degree before I go to work.

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Honestly, the experience you have brought me in the *Computer Architecture* so far is brilliant. I can strongly feel your sincerity to this course, as well as your eagerness to teach us the knowledge of computer architecture and even more life lessons. I would like to thank you and hope that you can continue to do so.

Regarding my future plans, I am actually quite confused. I am not sure whether I will choose to find a job or engage in scientific research in the future, but to be honest, I am more inclined to the former. But in any case, I will plan to study for a master's degree first, which is necessary for both finding a job and doing scientific research. Perhaps after I have done a few in-depth scientific research, I can figure out more clearly whether I am suitable for scientific research. When I was a child, I always yearned to become a scientist, but when I grew up, I gradually understood a truth. Scientific research is actually a job. Many times it is not as lofty and idealistic as everyone sees it. In fact, the state of most scientific researchers is more haggard than that of workers. Scientific research requires not only ability and vision, but also the ability to endure loneliness, uncertainty, and isolation from people of the same age. But there is no need to be too pessimistic. Some people are suitable for scientific research, while others are not. For most people, scientific research is just a job. During my undergraduate studies, I participated in the in-depth scientific research training program and had a preliminary experience of scientific research. I think I may not be the material for this. As for experience and advice, I don't think I am able to give it yet, because I am still seeking, exploring, and thinking.

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Suggestions

1. Course Content: I have noticed that this course has a large overlap with the course *Computer Organization and Design*. Course content may be adjusted to avoid this overlap.
2. Lab design: The lab framework is well-organized. However, there're still some bugs to be fixed. For example, in lab 4, the `HazardDetectionUnit`, the structure hazard is not prevented. Actually, in the tips, some senior students have already pointed out this problem. But the lab has not been updated yet.

Goal & Plan

I'm not sure about my future because I cannot find where my true interest and talent lie. So I want to continue my study and exploration.

My short-term goal is to apply for a professional master's degree. I won't choose to continue my study in ZJU because as a native, I've stayed in Zhejiang Province for too long. I want to go to a new place, and broaden my vision. As for the place I want to go, I'm not sure really. Maybe Singapore or HongKong will be fine for me, where the culture is more similar. And schools there are easier to apply to, especially for someone like me, whose GPA is relatively low. For the major, of course, I cannot think of a better choice than computer science. I have learned it for two years. I know I don't have the courage to give up.

To achieve this goal, language, GPA and research are all important. I have taken the TOEFL test once, but the outcome is not desirable. However I think it's not a big problem as long as more time and energy are invested. Research experience is the most tough one for me, because I'm quite busy right now. Maybe a summer school project will work, hopefully.

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Firstly I must say that Professor Bu, you are the teacher who cares students most I've ever seen in ZJU. Thank u very much.

For me, I would like to pursue higher degree and do science research in the future. Actually, I was so perplexed in my first two years in ZJU. Being a person who didn't know what he really loves is trully painful. This summer I try to contact some professors and one of them would like to offer me an opportunity to do science research with him. Then I began another terrible trip, being new to AI field, even a paper with ten pages took me one whole day to read. But as the time went by, I found my English reading speed improves and my self-learning ability benifits as well, because I solved all problems myself (I must admit it is a bad habit, I was afraid that professor would laugh at my fool questions, but they trully troubled me a lot). The summer vacation was good, every day I felt energetic but also much too anxious, this bad mood even troubled my sleeping and health. As the new semester begins, I felt hard to manage my time at first and this anxiety grows more. So I put my science research goal aside for a while. Now I decided to continue my science research study. But I will keep myself healthy and happy first, then study. This new mindset makes me feel my effort is sustainable, because I would like this to be my future job, and I must love my job and enjoy it first when it deeply affect my life. That's my short period goal. And for longer plans, I may delay graduation for 1 year because I'm still pursuing second Bachelor's degree (Finance) and I've take 2/3 required courses. Also it can give me more time to do science research. I must say that the competition is really intense and I started my journey too late, so I need to make every count. But still I want to keep healthy and happy first, it was the most valuable lesson I leart in previous 3 mouths. Thank u very much again~

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A suggestion: For presentation, I have to say my experience could be not that good accounting for the commonly delay among every groups. The reason——though we have make the rule of due time, we didn't regulate the consequence when groups didn't obey it. Actually when the first group exceeding the specified time by 10 minutes, I had known the actual case would be——no one would obey the time regulation. But my teacher I'm not blaming it on you or something, from the couple of days we spent on class, I can see you're such generous and kind. I just want to suggest that corresponding consequences should be stipulated, which is more fair for the group that complies with the regulations, and can also encourage students who are not familiar with the presentation content to prepare more. All in all, you're a good teacher and it's just a little suggestion. Glad if it could be helpful for course development↵

32

1. My goal after graduation: Well... I aspire to become a researcher in the field of computer science, whether it be in a corporate lab or an academic position, with a preference for the latter.

2. My plan to achieve that goal: I aim to directly pursue a Ph.D. under the guidance of a professor and then strive to publish high-quality research papers.

3. What challenges might be involved: I have already begun research training in a lab during my sophomore year. The challenges include finding that my personal interests may not align completely with the lab's focus, requiring me to explore most things on my own. Coming up with research paper ideas can be difficult. Studying abroad for a Ph.D. might be more beneficial for securing an academic position, but without research output, the pressure to apply is immense. Additionally, the less-than-ideal research environment in China and the need to balance undergraduate grades with research time, as well as the impact of international political instability on students studying abroad, are all factors to consider.

4. How I manage to be motivated and determined: I find it hard to articulate this in Chinese, but in English, it would be "just do it." In fact, after reading many posts about academic positions, witnessing the hardships of young university teachers, and observing the rich resumes of those applying for direct Ph.D. programs, I've seen that academia is not as rosy as imagined. Yet, I still hold onto the childhood dream of becoming a scientist. The world may not be as beautiful as we wish, and academia is not a utopia, but there are always people in academia who are building their own version of a utopia, working on topics they are passionate about and doing truly meaningful work. I want to be one of them. Although it may seem like a slim chance, it's worth a try.

5. Helpful advice or suggestions received from senior students and professors: 1. Do not pursue a Ph.D. in China. 2. Engage in research as early as possible. 3. Understand that undergraduate studies, graduate studies, and the industry are not necessarily related, so it's important to prepare early whether you are leaning towards research or a career, and not to be confined by the knowledge learned in undergraduate courses.

6. Suggestions that I want to offer to peers with similar goals: Don't get caught up in the competition (doge), and let's all work hard towards our futures. It's essential to engage in research early on.

33

Up until the time I wrote this, the most impressive part of my architecture course is **assignment 1**, when we form groups and explore SOTA papers themed on computer architecture. Frankly saying, it's been the most fluent presentation I've ever given during my undergraduate life. I myself, for the first time, had the feeling that I had got the nuance of a paper ---- [Emissary](#). Certainly, compared to other groups' content, which involves fancy stuffs, like GPU, LLM, security stuff, etc, we are among the most ordinary, but this experience itself, I believe, is about finding interesting things in architecture and above all, sparking one's passion for relevant research.

The Emissary work has a simple idea, really simple after I understand it, but the observation is not so easy to solicit, which is differentiate cache lines based on the occurrence of decode starvation. Even if you perceive this point, there are multiple variants to compare with. What if this method is just an incremental work over conventional methods or even dwarfed by conventional methods? So in some sense, it's really speculative for this notion to work just a little beyond incremental work, which I think is a typical trait of computer system paper (no offense and forgive my ignorance...). But, it just occurred to me, hey, this is research! You are exploring and trying to innovate. Probably, that's why this elegant paper won the best paper award in ISCA 2023.

For a period of time in that week after this presentation, I had a strong feeling that based on this successful attempt to savor a dip of great ideas in computer architecture, I can understand any great ideas in operating systems, in memory management, in cache mechanisms... You know, confidence booms.

After I calm down a little bit, I realize that I may not. But fortunately, the desire to explore remains, and I hope it remains forever. And another realization is that innovation doesn't come purely from ideas, you gotta do huge chunks of engineering to bring it to people's sight, especially in CS. That doesn't mean I don't like engineering works. Actually I really want to be experts in CS engineering, which would greatly facilitate and accelerate the process of research ---- explore, come up with raw ideas, code, iterate.... That really gives me some insights, at least I think so

As for advice to you, I think my idea just resonates with lots of other students and so I don't think I have much to say...

34

MyGOal and plan

It's hard to say what I want to do in the future though, I have some ideas in my mind. After graduation, I may have a further study in the field of computer science, getting a master's degree or even a Ph.D. degree, but I'm not sure about the major direction yet. I may also try to work in a company to accumulate some experience.

There's still too many questions of future that need to think about: which direction should I choose? Which university should I apply for? Which company should I work for in the even future? I will try to figure out these questions in the next few years... maybe as soon as possible since graduation is coming soon (NooooooOoOo).

Sounds not so good, but I will try my best to make a good plan for my future.

35

My goal after graduation is to continue my studies and complete a master's degree in computer science, and then consider either employment or further studies. Because I am relatively introverted and currently quite busy, I hope to muster the courage to participate in some research or internships during my senior year when I have more free time. While gaining experience, I aim to learn new technologies and become more outgoing. I'll stay updated with new technologies and research trends by taking online courses and reading books.

36

Plan and Goals:

Short-term planning is to consult and learn a lot from my lab mentor to further improve my scientific research quality; The long-term plan is to continue my study as a graduate student in computer science. During the undergraduate study, I have mastered the basic technology and knowledge. Thanks to the platform and resources of Zhejiang University, I have seen the direction and topic of competition in the industry at this moment, and how predecessors realized their dreams. I have also understood the basis of scientific research through the SRTP project. I also hope that I can firmly carry out my plan and go on step by step.

What I want to say to Mr. Bukai:

In your class, I feel rare sincerity and consideration for students. It is a kind of enjoyment to attend your class, especially on Monday morning, which makes a good start for every week. Thank you very much for your efforts, I believe that everything will bear fruit.

37

Early weeks of this term is a struggle for me.

Though I've been thinking about future plan ever since last year (under the influence of my girl friend who was at the same stage as mine), it seems too young too simple for now.

At high school, I got almost all those information about future planning from my teachers and parents, with their outdated cognition. At that time I'm willing to get the bachelor's degree and go to work as soon as possible. However in CKC, it's hard to neglect the power of environment. Everyone around me is thinking of further study, and everyone is telling me that with credential inflation, you will not get a well-paid job unless you are a MS or PHD.

Further study is not a easy decision that everyone can make. Due to my laziness in the past two years, my GPA has forbidden me from get a MS offer without a test, while submitting for a PHD seems too risky. To study abroad becomes my only option, which may result in a financial trap for my family.

Last month I was immersed in that anxiety and suffer from hypsomnia. I looked for any tiny information I can get about studying abroad but find them all no great choice. It's my class tutor who wake me up from this nightmare when I'm required to give a future plan on a class meeting. He told me, "It's rare to get a taught MS and choose to work in China", which leads me to think: "If I aim at working, why bother to study for another year?" Now I'm pretty sure that I'm going to work after graduation of the Bachelor's, and am still working toward the goal.

What I want to tell my peers is that do never make light of your GPA. You can only make choice purely freely when you have enough capital.

38

My goal:↵

In fact, I am not very clear about my goals after graduating from university, but there is a high probability that I will choose to continue my studies and become a postgraduate in artificial intelligence, machine learning or other fields (of course, based on the premise of being selected).↵

↵

Plan:↵

Firstly, in the coming year, I need to work hard to study and actively participate in relevant activities while maintaining my GPA, striving to obtain the qualification of postgraduate. Secondly, I have started to communicate with teachers in relative fields and have found publicly available online courses from well-known schools such as CMU for learning. With a certain foundation, I also hope to enter the laboratory and make preparations for scientific research in advance.↵

↵

Challenges:↵

The biggest challenge is actually overcoming one's own laziness. The freedom of university can easily make it difficult for people to focus on one thing for a long time and constantly strive, so they must constantly motivate themselves. Another big challenge for me is socializing with others. I am someone who can be called social anxiety, but in the future, necessary communication can greatly help achieve goals and progress. Therefore, I look forward to working hard to overcome it.↵

↵

My suggestions:↵

- Maintain a healthy schedule and body, and do not let others' irregularities affect you.↵
- Efficient absorption of the essence of knowledge, rather than meaningless mechanical labor.↵
- Don't have too much pressure, try your best and enjoy playing.↵

39

Now, I'm in my junior year, halfway through my undergraduate studies—a fitting time to start contemplating future goals. Yet, I've always avoided setting lofty ambitions, maybe not only avoided, but tried my best to escape from the stress of making resolutions. The uncertainty of the future is elusive and, in many ways, intimidating. Setting a goal often feels like sacrificing some of the novelty in life, demanding that we follow a predefined path to achieve it.

Many people ask me about my goals and plans. As a junior, I realize I can no longer dodge these questions. After graduation, I aim to pursue a master's degree. The knowledge I've gained in undergraduate courses feels like the foundation of a tower. If I wish to enter the halls of true mastery, I need to dig deeper. My experience in studying core subjects increasingly reveals how small I am in the vast world of knowledge. Coupled with the pressures of academic qualifications in today's society, I realize that further study is necessary, at least to the point of developing practical computer science skills that can support me in the real world.

Senior students and professors have made me aware of my limitations. In this boundless world, I'm gradually recognizing my own modest abilities and cultivating a spirit of humility. In the pursuit of excellence, I've come to see that I am not alone. On the path of seeking betterment, there are many peer students—each with their own strengths—who offer mutual respect, fervent friendship, and even a supportive shoulder during challenging times.

In my search for goals, I have wrestled with doubts and hesitation. My friends' advice has always been invaluable to me. Through it all, I'm grateful not to have been stuck in place. Instead, I've kept moving forward.

After all, perhaps the rigor of core courses brings pain, and research pressures induce anxiety, but I increasingly resonate with the words:

“Fear not the infinity of the truth. One inch closer we move towards it, one inch of delight we shall receive from it.”

40

The biggest challenge, for me, should be the pure English lecture. Although I have taken courses in English before, and as a pure Chinese(?), English is much more friendly, but it is still a bit difficult. But this is actually what I should overcome on my way to study computer science. In addition, the ppt is also very distinctive, simple but luminous!!! But I'm a little concerned about whether it has covered everything, because there doesn't seem to be a lot of content. Although I know the content of the course does vary greatly from teacher to teacher.....

The course has trained my ability to read papers. And it shaped my impression of architecture, which also applies to other computer courses.

As for the vision,, To be honest, I do not have a clear vision for the future. On the one hand, it may be because my MBTI is ultimately P, and on the other hand, I do not have what like a extreme enthusiasm for my current major. Although the grade is not too bad, I thought my coding skills were not enough to support me as a 'code famer' in the future. At present, I tentatively plan to go to the United States to study for a master degree. On the one hand, I want to go out to see a different world and enrich my experience, on the other hand, I don't want to enter the cruel world of work immediately. In fact, I have already made plans to go abroad, although I have not yet taken the TOEFL test and have not considered my major direction..... It feels like I don't have what lofty pursuit, just want to make a lottt of money. HH. But the closer I get to society, the more I feel the difficulty of making money and want to 'lie flat'.

If possible, could you tell me how to determine the future professional subdivision direction and how to start the scientific research. (it seems like my scientific path is blocked.....) Dragging my feet to finish this answer in the last hour of the ddl... Procrastination, you're destroying me!!!!

41

A discussion appointment is favored ~ !

After graduation, I'm aiming to study abroad, hopefully in a field I'm passionate about, and gain internship experience in positions that genuinely interest me. I want to explore different career paths and environments before settling down on what I really want to do. It's not just about getting a job—it's about finding the kind of work that makes me have the patience to do for years.

I know there are some big challenges ahead. First up, English—especially academic English. I often find it hard to catch up with the way native speakers handle complex topics so naturally. To be honest, I have some difficulty in catching up in our CA class because of the language. I need to improve my speaking and listening skills to hold my own in conversations about my field. Then there's the whole "adapting to a foreign environment" part. Moving to a new country means adjusting to a different culture, education system, and way of life, which can be a bit intimidating. Another dilemma I'm facing is whether to pursue a PhD or a Master's degree. Each option has its own pros and cons, and I'm still figuring out which one aligns best with my long-term goals.

Staying motivated is crucial, especially with all these hurdles. For me, it's a mix of intrinsic passion and external motivation. I've always had a genuine love for learning about certain subjects—there's something really rewarding about diving deep into topics I'm curious about. Plus, I want to build a life where I can support my family and the people I care about. That's a huge motivator for me; it pushes me to keep going, even when things get tough.

I've also been lucky to get some solid advice from older students and professors. During my sophomore year, I reached out to Xiong Ziyu, a senior who ended up going to Princeton. She shared some insights about her journey, and her advice has helped me a lot in planning my own path. Beyond that, there are so many other seniors and classmates who have been there for me, whether it's by sharing their course notes or through the knowledge-packed posts on CC98 forums. The community has really been a source of support and guidance.

So, as I look ahead, I'm excited but also grounded. I know it's not going to be an easy journey, but with the right support and a clear sense of purpose, I believe I can make it happen. And who knows hhh?

42

My future plan involves pursuing a PhD in computer science abroad, with a focus on deep learning technologies. I've already gained some research experiences but that is not enough for me to understand how the whole research process works or how to cultivate the sense of investigation. So I would like to go a little further along this path.

To be more specific, I plan to finish the paper writing of an ongoing research at the end of this year, and then get qualified for the English courses. During the summer next year, I plan to do a summer research abroad, gaining experience.

43

My goal after graduation is to continue my studies at ZJU. Although I am not yet firmly set on pursuing a Ph.D., I am certain that I do not want to enter the workforce directly after my undergraduate studies. I feel that my current knowledge and skills are not enough to give me a significant competitive advantage or make me truly irreplaceable, and I lack notable highlights to stand out in the job market. I hope to become financially independent after graduation, repaying the support and sacrifices of my family and friends by minimizing regrets and self-blame. My focus now is on diligently completing each task and cultivating positive relationships with others.

In the long term, my dream is to pursue at least one of my hobbies (such as single-player gaming, piano, badminton, drawing, etc.) to a high level, where I can participate in organized events and enrich my life outside of work. I am not looking to turn my hobbies into a source of income, as that might diminish my love for them. However, I would love to integrate my work with my passions, finding something that genuinely excites and motivates me.

44

卜老师，您不会每个学生的Q06都认真看吧...如果是的话，那我要预先提醒您，我接下来的话就是向您倒苦水，大体意思是觉得自己在计算机科学的学习中相当失败，没什么营养，属于是把您当心理医生了，对不起。

我觉得在以后的课程设计中取消第一二章节is reasonable，毕竟在计算机组成中这部分内容基本都涉及到过，当然我这种没好好学计算机组成的可能确实需要复习一下。

您上课上的很好，开小差那都是咱们自己的问题，您别多想呀！><

Professor Bu:

SO MUCH Thank you for your words. They really encourage and motivated me, who haven't find one's goal so far. I often find myself confused, empty and down. Low grades, procrastination and other stuff really make me feel bad.

I have nobody to talk to. All my friends are just like me - I'm sorry to describe my friends like that but it's the truth... Play video games and leave the work till deadlines. Our everyday life. My parents don't know me. They know nothing about college life. Joining an SRTP project only to find that I can do nothing and I can't learn anything in time. I'm too slow too procrastinate. I feel like I'm slowing the whole project down, which make me sad from time to time.

Of course I have dreams. I want to make video games so now I'm learning Computer Graphic very hard. But what i really want to be in the future is drawing comics. That's an old dream in my childhood. I gave up drawing in middle school for further study (for becoming a ZJU students full of failure) and they kept telling me if i choose to learn drawing things would be worse.

I guess i will prepare for interviews in this winter vacation for some local game companies. I'm preparing IELST too in case i want to go abroad some days. It's really hard to know what's going on for future, as i even don't know what I'll have for dinner...

45

My three years in university have taught me one thing: do not and cannot make specific assumptions about my future career. What kind of job will we have after completing our graduate studies? We might end up working at a big company with a "996" schedule, or we might stay at the university for a teaching position, or we might start a business and land on Forbes U30. Alternatively, we could return home and take civil service exams after struggling to find a job in a big city, or we might completely fail to find a decent job because the skills we learned in university have been replaced by new technologies. Unfortunately, the reality is that plans cannot keep up with changes.

I once heard a metaphor: birds stand on different branches. Some branches are sturdy, while others are fragile, but birds are not afraid of falling from the branches. This is not because they always manage to stand on strong branches, but because they can fly. Therefore, the purpose of our learning is not to find a sturdy branch, but to learn how to fly like birds. Thus, despite the various uncertainties in the social environment, one thing is certain: we must enhance our abilities. For us computer science students, the most important ability is to build our own technology stack and establish our professional barrier.

So, here I want to discuss how a student who positions themselves in the field of artificial intelligence should construct their technology stack. I believe that knowledge in AI, and in various fields of computer science, can be categorized into three aspects: foundational principles, cutting-edge trends, and vertical applications. Taking AI as an example, *foundational principles* include traditional statistical learning methods and classic deep learning neural network architectures. This part requires systematic study through reading books, and the biggest challenge is to endure the solitude and sit through the cold bench. *Cutting-edge trends* refer to the innovations in recent papers in the field. I believe the greatest challenge here lies in one's research taste, meaning your ability to discern which research has potential and which does not. This determines how you select what to read from the vast sea of papers and how you innovate based on insights from existing innovations. Finally, the *vertical application* aspect emphasizes the practical application scenarios of theories and technologies. For AI technologies, which are all-encompassing paradigms, it is important to have cross-disciplinary knowledge, downstream tasks, or market scenarios that align with them. The biggest challenge here is information gathering, which requires you to actively engage with industry professionals, seek internships in companies, and pay attention to the developments of leading teams.

Finally, I want to share a bit of life philosophy with everyone: "Be like water". Formless—do not impose limits on yourself; as the world changes, so do circumstances, and as circumstances change, so must we adapt; Follow the current—learn to leverage trends and the power of the community. So "Be like water. Flow. Adapt. Change. Find your way through."

46

I had a great experience and learned a lot from this class this semester. However, I felt that it was a bit difficult for me to listen to an all-English class for the first time. This required me to put in extra effort outside of class. In the future, I hope to use what I have learned in this course.

47

My goal after graduation is to continue pursuing graduate studies, and I am currently striving for recommendation for graduate school. Therefore, my current plan is to first maintain my GPA and then improve my professional knowledge level to lay a foundation for my future studies. Then, I plan to seek a mentor in my junior year to start working on scientific research. Due to my poor English proficiency, I plan to use my spare time in my junior year to enhance my English proficiency. The challenge I have encountered is that although my current grades are good, my computer practical ability is weak and I have not learned many skills. My programming ability also needs to be improved. Secondly, due to my weak English foundation, the process of learning English is also very painful. These are the difficulties I have encountered. The main way for me to maintain my enthusiasm and determination is to feel the joy of being successfully admitted to graduate school, so that I don't have to prepare for the exam anymore. This is my main motivation. I learned from my senior classmates about the requirements and precautions for applying for graduate school, and learned that there are also requirements for English in applying for graduate school. Therefore, I started to strengthen my English learning and also talked to my senior classmates about some methods of computer learning.

48

My primary goal after graduation is to pursue a master's degree before entering the IT industry. I believe that further education will enhance my technical skills and provide me with a deeper understanding of the field. However, I currently feel somewhat uncertain about my specific career objectives within IT. I plan to explore various areas, such as software development, data analysis, and cybersecurity, to determine what truly interests me.

While I'm navigating this journey, I intend to stay proactive by engaging in internships and networking with professionals in the industry. This hands-on experience will help me refine my interests and clarify my career path. I recognize that it's normal to feel a bit lost at this stage, and I'm committed to taking it step by step, remaining open to new opportunities and insights as they arise.

49

What major should I choose? As I'm a high school student, I started to think about it because I knew it clearly that what job I would do in the future is more more more important than which university I would enter. Since then, I have conceived the idea of choosing computer science as my major.

The idea originated from a very simple reason: I have always been passionate about animation since childhood. In elementary school, I was deeply immersed in various domestic animations broadcast on TV. That was the golden age of Blue Arc Company, and the classic works from that time are still vivid in my memory. After entering junior high school, I became even more obsessed with Japanese anime, and thus embarked on the path of being an anime enthusiast.

In addition to being a "internet addiction youth" who was obsessed with games from a young age, I knew very well that without any background in art, it would be difficult for me to become a concept artist or a graphic designer. However, the clearer I became about my love for anime and games, the more determined I was to turn this passion into a career.

Animation and gaming are closely related to computers, and in high school, I didn't know much about this field, just having a vague idea. But this vague idea was enough to make me choose Computer Science as my

target major. Interestingly, when filling out my college applications, I naively believed that Zhejiang University (ZJU) was better than Shanghai Jiao Tong University (SJTU). At that time, a teacher from SJTU told me that ZJU might be stronger in graphics, but SJTU was stronger in other areas. I had no idea what graphics was, and was thoroughly confused, almost choosing SJTU as my first choice. In the end, due to my relatively low ranking, I chose ZJU for safety reasons. Looking back now, it might have been fate.

During the first two years of university, I wasn't particularly motivated. The first two years were filled with various foundational courses and general education courses, which made me dizzy with mathematics, physics, and chemistry. Being someone who strongly resists doing things I don't enjoy, combined with the difficulty of these courses, I gradually started to slack off, continuing this way for several semesters. Although I didn't fall behind in computer science, my GPA was already very poor. When I examined my GPA and realized that I had little chance of getting a guaranteed graduate school recommendation, I began to rethink my future: should I take the postgraduate entrance exam or start working?

After a lot of thought, I found that I didn't have much attachment to academic degrees; I just had certain ideas about my future career. I

wanted to join game companies or animation studios, and I wanted to create games and animations. In the end, I came to the conclusion that no matter what, I needed to enrich my knowledge and learn something substantial. With this mindset, I communicated with Professor Jin Xiaogang from the CAD&CG Lab and began to self-study graphics knowledge, taking many courses in graphics. I could clearly feel that I was very excited and happy while learning graphics, which further solidified my determination.

Although I hadn't been studying graphics for long, I had already determined my plan. I very much hoped to join Professor Jin's lab because he has a close relationship with Tencent. Therefore, the most important thing for me now is to pass the postgraduate entrance exam. At the same time, I cannot stop learning all aspects of computer science, not just for exams, but more importantly, to add more value to myself. I hope that even if unexpected situations arise, I won't be at a loss but will have more options. I am very grateful to Kaige for your course on Computer Architecture. Beyond the knowledge, I strongly felt your dedication and passion for your work, which has also inspired me to continue moving forward.

50

I must admit that I don't have a clear plan for my future. But your words are quite inspiring. I will try to elaborate on my thoughts on the future.

My goal after graduation now is to pursue a higher degree. So now I'm working in the direction of getting good grades, which decides whether I can get postgraduate recommendation. If I fail to get it, I will need to take Postgraduate Entrance Examination. Furthermore, I should decide on my research direction as soon as possible. My current preliminary research direction is related to artificial intelligence. Moreover, I'd like to get involved in some research projects related to my research direction to gain more research experience and confirm my goals at the same time, because I'm not truly determined.

Finally, I'd like to say thank you for caring so much for our study. Not only on the course, but also for our future. I will continue to confirm my goals as I move forward.

51

Thank you very much for this long and heartfelt message from Teacher Bu Kai. I can start to think about where to go in the future. Although the knowledge in class is only needed for exams, these thoughts are unforgettable for me.

52

Errr, so, I've been quite confused about future.

I didn't do well in University. I didn't get good scores and yet, I didn't develop my hobbies and often, I ask myself where did I spend my time.

I feel quite lonely in my life, so i wanna build a machine? A robot that can talk to me. stay with me. That's why I choose CS. Soon I found it may not be a easy to step on this road.

But I couldn't find other things to do.

I've talked with my tutor, he wants me to learn more about speech model while there is a senior who invites me to learn about GPU acceleration.

And I think I may couldn't do anything well,

No matter what happens, we will all reach future one day.

53

After graduation, pursuing a master's degree seems like a given. However, this also brings about confusion: what should I do after my master's? Should I continue my studies, pursue a doctorate, engage in postdoctoral research, secure a teaching position, or shift to a large corporation, or even become a civil servant? I still haven't figured this out. I have hardly been exposed to research, so I don't know whether I love it or if I am suited for it. I feel like I am intermittently ambitious, lacking focus on any one thing, yet I am not entirely willing to give up. A senior advised me to try more; there are many opportunities to make mistakes during undergraduate studies. However, I am already in my third year, and although I have started collaborating with seniors, I still cannot help but feel anxious about the future. Moving forward in confusion.

54

goals after graduation: do research on animation/simulation.

Best if I could simulate entire ocean in real time on my PC.

Or develop lighter prone, or work on AR/VR industry.

I have no realistic goal yet, all seem like daydreaming.

55

After graduation, I will probably looking for a job which is not so closely related to computer science, because I am not as keen on coding as I imagined. I'm not good at nearly all CS courses, so I'm always wondering what if I didn't choose ZJU and not major in CS. However, for a more promising future, I have no choice but to study techniques. As a consequence of poor job market, people with weak skills in CS like me will not easily obtain a pleasant job. To be honest, I'm barely motivated or determined and I never communicate with senior students or professors. I have an uncertain future, so I could not give some advice.↵

56

While as for this class, there is no doubt that hardware knowledge is important. I have already noticed that in Computer Composition class. Making it even further in Computer Architecture is quite meaningful for me!

But for our class, first, we have just start a beginning, and many basic knowledge we have already learned in Computer Composition, and for many advanced knowledge, well, I'm not sure if I can get it. And I'm not really good at English, so learning that will be hard for me. I'm not sure if I can handle the final exam and get a good grade nor to get the really helpful point. All in all, the final grade do decides our future!

So my advice is —— more homework or assignment! And these are more about the knowledge we learned in today's class, like other courses do, weekly homework or quiz will be important! We don't have to grade them but release answers and discussions. That will really help us to grasp the key point of the class.

As for my future, a good job will be enough for me. Well I do not wish to do research or something. But as far as I know, hardware market is much better than software these years, but software will be more recognized by myself. So something awkward happens and seriously I can't figure it out now.

After all, thank you for all your dedication and effort! You are a good teacher!

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Opening my homework and worked on it until the last question, it is already deep into the night. Thinking back on my two years in college, this is probably not the first night I've spent in front of a computer screen. Just yesterday, a typhoon passed by, and tonight feels even quieter than last night.

Reflecting on my two years studying computer science in MIX Class, countless sleepless nights come to mind. From struggling with the physics assignments I couldn't understand, to working on the MiniSQL project for database systems, and then feeling extremely nervous before final exams in ADS... So many nights have slipped away in front of that screen. Maybe choosing computer science means facing many challenges. Or perhaps in this era, no matter what path we choose, it will always be a long and winding road.

So what should I do? What kind of person should I become? In these two years at university, I've been involved in scientific research and participated in publishing papers. I've also developed many programs, some simple and some complex. But after all this time, I still don't have a clear answer inside me. As Kaige wrote, "The third year cannot be more decisive for your future... If you have not decided, do both if your time and energy permit." Even if the road ahead is long, I can't afford to stop for a moment; busy as ever, I've suddenly reached a key year.

Although there isn't a real timetable for my life, I'm still being pushed forward by the momentum of my past experiences. The lab I joined in my first year is now encouraging me to lead my own research projects. The competitions I entered are now at the finals stage. Perhaps after this busy semester ends, I should look for an internship in a technical position—both to prepare for future job hunting and to gain new life experiences. Meanwhile, my girlfriend is studying in another city. She means so much to me and is a vital part of my life plans. It makes me reflect deeply on our future and the choices I need to make.

I think that unless something big changes, I'll probably stay at the university here to continue with my master's degree. But before that, I'll try out some internships because I want to experience more during my youth. One day, I hope to walk down the path I've chosen, say "WOW" like in our class, and never regretting any step I've taken along the way.

2024/11/3, 3:23

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It's easy to learn knowledge, but sometimes it's hard to really get fun from learning. After getting into college, I found it hard to let myself enjoy many classes. Before, I was very sure I'm good at learning, but life in college proved completely the opposite. Sometimes I would have these kind of ideas, that I can't do anything well. I have asked myself for like a thousand times—is it really a mistake to choose CS? Even till today, I still can't sure if I want to learn and do CS work for the rest of my life. It's torture to learn things I don't like. But I can't afford the price to learn a new subject all over, so maybe I guess I will still learn CS. And to be honest, sometimes when I get a hard project done, I can get a sense of gain, but these moments are still too few. I really admire your love for CS, and I hope I can develop a positive attitude like you in the future. But still, who can tell what kind of job I will be doing ten years from now? After all, tomorrow is another day. (^ ω ^)

59

As I write this, I am still very confused, both about the course on computer architecture and about my future life. At first glance, there seem to be too many paths for the future, but upon closer examination, it seems that none of them are feasible. The paths I have taken before all seem to be detours, and the efforts I have made seem to be a waste of precious time.

But recently, I read about the experiences of this year's Nobel Prize winner, Hinton. He first studied physics and chemistry, then dropped out, switched to architecture, gave up after one day of class, then out of curiosity about the brain, studied biology, then philosophy, and finally psychology, but in the end, he gave it up and became a carpenter. It was only a few years later that he returned to academia and, despite skepticism, made his own contributions.

I have been studying computer science (CS) for three years, and I clearly feel that I do not have a strong interest in it. However, I have indeed learned some design philosophies from it, such as abstraction, making common sense fast, and pipeline. Will these be useful to me in the future? I don't know. But at least I know that I am not well-suited for CS. I might be interested in other things, but is that a true passion? I still don't know, but I think I should give it a try now.

60

The scene when I first entered college still occasionally appeared in my eyes, but now I have reached my junior year, a crucial time for my entire life.

It's time to start thinking about future plans. Unlike the confidence I had when I first entered university, after more than two years of studying, I have gained a certain understanding of computer science and its complexity. At present, I don't have a clear goal yet, and I feel a bit confused. However, my main goal is to continue learning and pursue graduate studies. The main purpose of studying at the undergraduate level is to lay a foundation and prepare for future research and work. However, the knowledge I have learned so far is far from enough, so I want to continue my studies and make more preparations. Firstly, I need to focus on my current learning. The knowledge I am currently learning may not be suitable for the direction I choose in the future, but all the knowledge I have learned can provide me with valuable experience. At the same time, I also hope to find my favorite direction while learning and explore it. But this road is not simple either. Whenever I feel tired, I recall what I looked like when I first walked into the university campus, full of vitality and confidence. So, if I don't fight now, when should I wait? There is still time and opportunity, carry your original ideals, stay grounded, and move forward towards the future.

61

To be honest, I am not so satisfied with the framework of lab. Specifically, the framework itself has a high latency which may be caused by modular design and usage of registers. That results in difference between simulation results and actual behavior and leaves me spend most of my time on debugging. Moreover, most of bugs are solved by wild methods including but not limited to:

- Change a board to implement the design
- Change the data cable
- Use a newer version of Vivado
- Wipe the dust off the board

Teaching assistants sometimes regard it as a kind of metaphysics. However, I want to point out that should be blamed on UNREASONABLE FRAMEWORK DESIGN.

YOU SHOULD Reduce simulation latency caused by the framework. You can do that by just unpacking components. That only use three keys on your keyboard: Ctrl, C and V.

That's all about complaint. I'd like to talk about my goal. Since I'm a student from top-level department in top-level university in China, it's a shame to say that I do not want to be a scientist nor an engineer. I've talked with professors in their thirties and asked them how to live on academy. Here's the answer I received:

- Get a doctor degree before 30 ABROAD
- Be a postdoc for 3 years and get a tenure ABROAD
- Return to motherland and find a position before 35

It's hard to get doctor degree and there will be twice as many PhD students graduating from universities as there are tenures. If luckily I can get a tenure, I should be a postdoc or lecturer for years to wait for that job. That takes more than ten years to get a academic job and I should do it all abroad to avoid fierce competition in China without my family. I believe I fully understand the difficulty and I know my curiosity can not support me.

I've also talked with senior students who had gotten a job. They talked about competition during work, difficulty in work-life balance, high housing price, geographical discrimination and household restrictions. We also talked about their context of work. Because of fine division of labor, they were forced to focus on certain part of whole. They got a high-level salary but they thought a senior-high student with proper training can meet the need of their work. So they were afraid of being laid off and endured overtime.

In my opinion, the difficulties hovering over them lies in the redundancy of workforce. In long term, that may be changed by development of economics and de-escalation of world situation but that may persist or get worse during my youth. So I decide to get abroad and find a market lacking of workforce.

I understand the importance of division of labor. However, as Marx says "work is a kind of alienation for people", with that degree of division I may feel my job is no longer a method to realize my personal value but a method to realize the dream of others.

I may try jobs related to marketing or product designing, especially cross-national marketing and niche product designing. Cross-national marketing needs understanding of cultures in both sides, meanwhile niche product designing has small shipment. That makes these jobs more autonomy. To meet those needs I plan to:

- Get my master degree abroad
- Learn second foreign language
- Learn about market economy

If every thing goes well, I may get a job in market like Hong Kong, Japan or Switzerland. If possible, I would try to get a certificate in finance such as CFA in the fourth year of university.

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Thank you very much, kg, for all the support and dedication you've shown throughout this half-semester in this course. Since I started college, I've never had a teacher who treated us like close friends the way you do. In my opinion, this Computer Architecture course has given me a deeper understanding of pipelines and CPUs. In the Computer Organization course, labs 4 and 5 were overwhelming, and the bonus tasks, such as implementing exceptions and handling forwarding and stalls, lacked effective guidance in the lab documents. As a result, I struggled a lot back then. It wasn't until the labs in the Computer Architecture course that I finally understood how to implement these functions in Verilog and create a fully functional pipelined CPU.↵

↵

Personally, I feel that the theoretical part in the first half of this semester overlapped a bit too much with the Computer Organization course (if we only focus on the theory). Perhaps a good approach during this period would be to include more tests? (It could serve as a way to track attendance as well). Listening to the same theory twice may indeed not be as effective as testing and explaining some of the more foundational concepts. ↵

↵

I actually enjoy answering questions in class. On the one hand, it makes the classroom atmosphere more engaging, and on the other hand, it serves as a kind of encouragement. We could consider some reward mechanisms, like awarding extra points for answering questions in class, or giving points for explaining problems on stage after completing a test. This could make the theory sessions more enjoyable. I believe that as long as extra points are involved, no one would mind answering questions (doge).↵

↵

For me, I'm still not entirely sure what I'll end up doing in the future. It's likely I'll continue on to graduate school (a path many people take, and my parents hope for as well). However, from my experience in the lab, I've realized that I'm not particularly interested in research; instead, I may be more inclined towards developing various applications. So, I think I'll eventually move towards the industry, and I hope to find an internship next semester to gain work experience.↵

↵

I've learned a lot from my seniors, especially from some I've never even met (like senior xyx—his notes have helped me countless times). Right now, I don't have a specific field I'm particularly interested in, so I've taken a bunch of different courses. It seems like I know a little bit in various areas, which is actually a nice feeling, though it means I haven't delved deeply into any one field.↵

↵

What I've learned from kg is dedication. I can see how seriously you prepare for each lesson, how you personally review each student's work, engage with us as friends, and try innovative methods (like presenting papers) to make the class more interesting and exciting. This sets you apart from other teachers and makes me admire you greatly. I will strive to learn from you in the future and take each task seriously.↵

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At the beginning of this assignment, I would like to express my sincere appreciation to you, Teacher. You are the first teacher I have had who not only teaches the class but also remembers almost every student's name. I'm very sorry for missing class last week. I promise I won't be absent anymore this semester, as I believe that being present is a way to respect such a gracious teacher.

Regarding your general questions, I think they can be answered in two parts: one is a suggestion for improving the CA (Computer Architecture) class, and the other is about my personal plans.

1 Some Advice

CA is quite a comprehensive CS class, as it bridges the hardware and software aspects, making it one of the most challenging core courses in the major. It's crucial for everyone to understand how hardware is designed and how to maximize its potential.

But we have to acknowledge two things:

1. Hardware has developed rapidly. For instance, RAM is no longer as expensive as it used to be, so some strategies are now outdated. Just like in state-of-the-art research, people need to publish papers and produce new work, so many design approaches with pros and cons exist. Therefore, a clarity frame is essential, maybe some latest material to expand upon.
2. Foundational concepts are limited, so these should be fully explained. Like TLB or LRU/MRU are easier to understand if the code is shown. (Since our class is taught in English, it's not easy for Chinese students to grasp the key ideas, so they often have to study on their own after class.)

If you could present questions or challenges that CA designers faced in the past and what choices they preferred, let students to design their own way. I think it could not only interest students but also inspire their passion for research.

2 Self-Plan

For my personal plan, I've always seen a clear path: my parents run their own business, and growing up, it seemed **kismet** for me to pursue my own "business." They work in the service trade, providing computer servers to the government, but I aspire to do something innovative, like **Elon Musk**—using creativity to make an impact and earn money.

I joined a research lab and the CS competition team early, in my freshman year (ZJUSCT and CAD&CG). I've worked on CUDA, LLM, and AI for science applications and research. Now I'm interested in 3D and robotics, and I plan to complete my Ph.D. at ZJU under the CKC 4-year development program. (The reason I don't choose to study abroad is that I've met wonderful teachers here, and I believe that, if I want to pursue business, the connections I can build in Hangzhou will provide strong support.)

3 Ending

WOW!

Nice to meet you, Mr. Bu!

It would be a pleasure if you could give me detailed suggestions or have some deeper discussions in the future!

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Respected Mr. Bů being one of the most esteemed professors with whom I've had the honor to meet, a beacon of learned distinction, it is with no small measure of gratitude that I speak of your singular approach to the noble discipline which you impart with such wisdom. Unlike those who, easily influenced by the fickle winds of fashion, readily surrender to fleeting trends in lectures, even though in the case of popularity and benevolence is not unlike an unacceptable practice, you possess a mind unshackled by the dictates of transient and impetuous popularity nowadays, steadfastly loyal to the enduring truths and principles that lie at the heart of true scholarship. Each notion in your lectures expounds with a rare and precious perspicacity, a clarity of thought that stems from your deeply considered convictions. Verily, your dedication to us students is evident in your ever-open door and compassionate guidance, where you put a lot of effort to bestow upon us not only courseware, homework, and tests, but also counsel, encouragement, and fervor of a lifelong pursuit of knowledge. Thus I am most grateful for your endeavors as one who is not only our guide in learning but we students' unwavering advocate and reliable friend.

I, proudly as a user of the English language, don't

usually find it a language barrier in my learning as most peers agonize over, who, whereas, are extraordinary at reasonable, scientific logic in their brain, unextinguished passion for innovation and creation, and faithful determination to the life's materialistic progress in their mind, compared with me often described as sensible, spiritual, prudent and tranquility loving, and frequently bothered and challenged by the knowledge and methods in computer science, especially engineering. Therefore, from my humble point of view,

1. There are 3 assignments, among which one is a presentation. This, I apologize for any offense, is not very fair. I suggest that every week there would appear a short assignment focused on this week's content. The quantity is expected to be appropriate, for example, 1 or 2 questions like in the current assignment 1, not taking up too much of our time, as it may be finished within 15 or 20 minutes after reviewing this week's courseware. This would be an effective way to boost our learning.
2. Many abstract, if not metaphysical, design ideas are listed there. If more instances are prepared, such as their calculation, and how they're actually put into use, it would be mostly welcomed.

3. The lab assignments are too narrowly connected. Lab 2, 3, and 4 may be more sparse as for submission time.

65

06.
After my graduation, I'd like to go for a master degree. I have prepared a lot for this goal, for example, I ~~am~~ I have been devoted to NLP research for half year and participant in some projects. After that, I want to get a place of AI development work because I ^{am} really enjoyed to learn it.

66

I thought the class was very good and the teacher was very gentle. I have a very high opinion of Mr. Bu Kai, and I like this teacher very much. Although the class was conducted in English due to the standards of the international curriculum, it was able to improve my English. Overall, I thought the lesson was pretty good.

There is a high probability that I will continue to study in graduate school after my senior year, and at present, there is no hope of securing graduate school, and I have to prepare for graduate school. I have not yet reached the 550 score required in the proficiency test, so I will continue to study English to lay the foundation for the postgraduate entrance examination. I will also start preparing for graduate school in advance, including professional knowledge, mathematics, and current affairs and politics.

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In the future, I plan to continue pursuing my Ph.D. at our university's State Key Laboratory of Blockchain and Data Security, focusing on research in AI security, AIGC content safety, and privacy protection. During both my undergraduate and Ph.D. studies, I aim to dedicate myself to rigorous research, maintain close ties with industry, and engage in active exchange with international colleagues. I am committed to expanding my internship experience within the industry and seeking international collaboration opportunities, all with the goal of securing a research position in industry or a postdoctoral academic role abroad, with the ultimate ambition of attaining a faculty position.

I am deeply grateful to my laboratory and my advisory team for introducing me to such an exciting research field. Their profound knowledge and thoughtful guidance have helped me understand the research process, navigate academic papers, identify valuable topics, and start experimenting, writing, and submitting to conferences. I also encourage my peers to join labs early and discover their own research interests. Together, with dedication, we can make impactful contributions to our fields. Research is both enjoyable and incredibly rewarding! We are still young, with plenty of opportunities to try and learn from mistakes, and our sunk costs are minimal. This is the best time in life to start a research journey!

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Life is a journey filled with ups and downs, but it's essential to cultivate a mindset of optimism. Every challenge we face presents an opportunity for growth and learning. When obstacles arise, instead of viewing them as insurmountable barriers, let's see them as stepping stones to a brighter future.↵

Remember, the power of positivity lies within us. By focusing on the good, we can transform our perspective. Each day, take a moment to appreciate the small victories—whether it's completing an assignment, sharing a laugh with a friend, or simply enjoying a beautiful sunset. These moments remind us that joy exists, even amid difficulties.↵

Surround yourself with uplifting influences. Engage with those who inspire you, share your dreams, and encourage you to reach for the stars. Remember, it's okay to stumble; what matters is that we get back up and keep moving forward.↵

Let's embrace each day with an open heart and a hopeful spirit. Believe in your potential, for the best is yet to come. Optimism isn't just a mindset; it's a powerful tool that can help us navigate life's challenges and illuminate our path to success. Keep shining bright!↵

69

在这里我要感谢凯哥在这次的作业中给了我这样令人耳目一新的作业主题，您是我此生见过最有教学热情和人格魅力的老师。但可惜受制于这样一门课程，不能完全发挥您的能力，希望您未来可以改教另外独立的大型课程（如操作系统、计算机网络之类）、或者是对计算机硬件的三门课程进行改组使其变得充实而高效以发挥您的才能。

好了，言归正传，其实我在入学之初是无比迷茫的，不知道自己未来要做什么，只是随着大流认为自己应该去一路读书读到读不下去为止，但是随着时间的推移和对科研的初步接触，我逐渐发现自己对理论科研并没有很大的兴趣，而是更倾向于开发、维护、更新代码这样“低级”的操作，这时候我动了在本科就业的念头，一开始其实还是挺纠结的，认为自己在一个很好的平台不应该就此止步，但逐渐我的信念愈发坚定，我认为来到这样一个高的平台不是斩断了我停歇的根基，而是给了我更多选择的机会，权衡利弊后即使选择停步也是一个正确的选择，好在家人很尊重我的意见，我也在下定决心后为此而努力，希望未来的我不会因我这个决定而后悔，现在我为未来的面试已然做了很多的准备，只希望未来的我能够给我一个满意的答卷。

70

In the future, my goal is to become an expert in the field of 3D computer vision, contributing to cutting-edge research and technological advancements. I aspire to develop innovative solutions for applications such as intelligent transportation, virtual reality, and robotic navigation. To achieve this, I plan to join a renowned research lab(zju3dv) where I can engage in complex projects to enhance my research experience and practical skills.

I will focus on improving my programming abilities and algorithm design skills while actively participating in relevant academic activities to exchange ideas and gain insights from experts and peers in the field. I believe that continuous learning and hands-on practice will be my driving force.

As I face future challenges, I recognize that time management and mental resilience will be crucial. Therefore, I will regularly reflect on my progress and adjust my plans as needed to ensure I stay on the right path. I also hope to share experiences with classmates who are equally passionate about 3D computer vision, supporting each other and growing together.

Regardless of the path ahead, I am confident that maintaining my enthusiasm for research and embracing challenges will lead me to achieve my goals.

首先，先谈谈关于体系这门课。可以看出kg很用心在对待！但①前几周课程高度和计组重合，希望在之后的教学中可以压缩一些这些内容，甚至直接跳过，期末前把会涉及的概念重新过一遍更好②作业：presentation这种每人讲两分钟，很难深入，甚至讲的同学自己也只知局部，不清楚全局当然，除了这两点外，我都很满意！😊

之后，来聊聊对未来的想法！在浙大的两年，我对于学习的体验是双重的。一方面，可能由于经济下行，国际关系恶化的影响，内卷比较严重。。。浪费了大量的时间在无聊的应试上，比谁背书背的好，又有什么意义呢？但另一方面，浙大也是一个综合性的大学，我旁听/选修了很多我喜欢的课程，《宏/微观经济学》，《政治经济引论》，《资本论选读》，《博弈论》，《现代中外关系》等还在网络上学了《西方哲学史》，并看了一些经典的书籍。在这个过程中，我发现自己是享受的，觉得学习还是挺有趣的！

因此，我梦想的规划是，去找一个在综合性大学可以给我经济支持的博士机会。这样就可以一边做有一些创新性的工作，一边继续去自由地学习其他领域我认为有意义的知识。并且我也不会刻意去

追求学校的排名很高,重要的是在一个好的氛围中,
可以避免严重内卷地学习有意义的东西吧。

为了实现自己的规划,我目前在学院系统方向的一个
实验室实习,希望之后有一些产出。并且也开始学习
雅思了,之后考语言吧。自己的GPA现在在40%~50%,
大三这一年再卷一卷,为了之后不卷哈哈哈!

如果K9有什么建议的话,也欢迎向我提出!
字有点丑, sorry 啊! ~)

72

Honestly, I feel that I don't have as much passion for computer science as some of my classmates. For now, I'm focused on learning the material well and aiming to get into a good school for postgraduate studies, whether through exams or recommendations. I hope to eventually work for a reputable state-owned enterprise. I'm somewhat uncertain about the future, as there isn't anything in particular that I feel driven to pursue. Unlike many people, I don't want to turn my hobbies or favorite activities into my career. From observing others around me (although there are exceptions), I feel that work can drain a person's interest in something they once enjoyed. So, I'd prefer a job that, while not necessarily something I love, is within my capabilities, doesn't demand too much challenge, and doesn't consume too much of my time and energy. That way, I can dedicate my time to other interests without feeling pressured. I'm someone with varied interests, and I enjoy trying new things, but I also get bored easily and find it hard to stick with one activity for an extended period. So, to sum up, I hope to live a simple life in the future, with a steady job and a peaceful existence, enjoying a life of modest satisfaction.

73

Sometimes it seems that it is hard to say something important in written English, as there might be full of mistakes in vocabulary and grammar due to my poor English level. But I will try my best to make it a little bit away from "Chinglish" version without using some kinds of translation softwares.

Well, it is my third year in zju, since 2022, I have to say that I really did NOT get much from both GPAs and wellbeing of my self. I know it sounds exaggerating, but on some level it is true for me. I hadn't thought of having the chance to study at such a great university when I was still in the high school. Though I thought I was fully prepared for the upcoming high peer pressure and LOTS OF MATH courses, it turned out that maybe I was not really ready for them.

So when I saw the question which says "what is my goal after graduation?", and the words such as "aim to work in an IT company or to pursue a higher degree?", I was appalled. I recalled the past two years in zju, and sadly, based on the experience I have, I don't know what I will do in the near future.

The first semester, I thought that I need to focus more on the basic courses such as mathematics analysis and linear algebra, so I did not attend much activities or join some clubs. I still followed my usual learning strategies used in high school, and sometimes have some rest. And the outcome was awful, of course. I should have known that I was already in a great university, not the ordinary high school in my hometown. I did not fail any course, but what is the difference between 2.1 and 1.5 or 0 on GPA? Especially in such an intense situation, any small gap in grades will be magnified.

The next semester, as still in the freshman year, I THOUGHT that I didn't do well because I wasn't try hard. So I tried hard. I tried to pay more attention at class, I tried to do the homework myself, I tried to prepare for the final as early as possible, but little was gained.

Due to LOTS OF MATH courses, and maybe I wasn't suitable for learning math, My GPA was still low. Although I struggled to earn a better grade, and yes, the ranking of my GPA in the class of each semester was higher and higher, but the overall ranking was still in the last 20%.

So back to the question, what is my goal? What is my feedback on this course? I think that I am not qualified to answer this. Maybe 2 years earlier, when I saw the grades of my linear algebra and mathematics analysis courses, I should have already known that I personally blocked one possibility for the future. No matter how I tried, the possibility that I would earn the qualification for the chance to study for the master degree in zju is still zero. Until now, I still don't know what aspect I am indeed interested in, not to say to provide some feedback on this course. Maybe it is common when people are at the same age as me.

But in the end I still need to get a master degree to try to get a job maybe in an IT company, and the only choice for me is to apply for the overseas universities, trying to get a master degree. So for me, the only thing that I want from this course is a somehow reasonable grade. Other than that, I couldn't ask for anything else. It is pathetic that I treat the university the same way as in the high school, but I've got no choice. I now realize that it is impossible for me to make up for the gap between me myself and others only in these 4 years, for what I really lack of is the spirit of inquiry, is the confidence that will conquer any difficulties. Maybe what I can do is simply finish the coursework, and do my best to earn a better score and wish that some university will offer me a chance to further pursue a master degree.

I'm really sorry for these pessimistic words, personally I think you, Prof. Kai Bu, is an excellent teacher, for I didn't really encounter many professors who are willing to make the class better and easier to learn, trying to find a way to better help students. It was my lucky to take this architecture course from you. Sorry again for not providing some useful information on this course.

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讨论到自己的感想和计划，还是打算使用中文来写（毕竟学在浙大A06要求没有要written language:English)

如果真的要求英语的话，求求不要扣平时分，那种事情不要啊

认真谈一谈目前的现状的话，出路无非就是保研，考研，本科就业，出国

考研目前基本不考虑，因为自己的学习水平基本考不到浙大同水平的学校

出国的话由于家庭情况也不考虑

从本科就业而言，个人没什么拿得出手的项目经历和实习经历，实际上，如果考虑到本科就业的话，大三下就应当翘课去找实习了。从薪资的角度考虑，只有一个985学历作背书并不能得到很好的offer。

当然推免也是处于边缘的情况，参照去年的排名和今年的排名，我的成绩甚至绩点就刚刚在推免线边缘，甚至去年和今年目前的成绩和排名分布一摸一样。所以说目前在边缘努力，只能说尝试刷点分和尽量努努力了，不过也不确定今年的推免情况，头秃。

像ZZB这种项目也只能说是摸着石头过河，每年政策也不一样，之前ZZB在推免之前，现在在推免之后，某种意义上反而增加了推免的竞争。。。

目前来说只能是在大三上结束的时候看一看绩点排名，再有提升的话就可以尝试一下推免，如果还是这鬼样子就只能翘课去乖乖找实习了，然后秋招直接找个不多不少的工作。

科研方面目前进了一个组，老师很好，带的学姐也很好，就是我有菜（。AIGC方向的，目前跟着她做一篇3DGS方向的论文，虽然依旧是在干杂活，但是目前感觉这个组的氛围和各项规则制度都很不错，待遇似乎也还可以的样子。所以打算继续跟着这个组做下去，如果可以推免的话就尝试进这个组了。

某种意义上来说，我的个人方向不是很明确，读研或许也只是让我再逃避大四和研一两年，我也可以用我本科找工作找不到薪资比较高的工作来作为借口，但至少碰到了个还不错的组，还算适合的方向，感觉接收端有点着落了，就往读研方向尝试靠一靠了。

不过还是得吐槽一下zju选课，大三下的课我大三上冬学期就得选完，但是如果从实习角度考虑就应该一门课不选，从刷分角度考虑就得多选几门，可是成绩大三上结束才能出，真是令人头秃（。

我对自己的方向和规划差不多就是这样了，可能有点向小学生流水账一般，但是这是我根据我目前情况给出的判断和思考。

谢谢凯哥浪费时间看完这一篇流水账（如果您真的看了的话），期望得到您的回复（钉钉上一句话也行

- PS: 从提问的角度而言，给出足够多的信息但却明确想要得到怎样的答复才是一个正常的提问，但是我的上文显然不满足，但是可能希望凯哥能够给出一些“长者的建议“?,如果没有时间的话不给也行，再次感谢。

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My goal after graduation is to pursue a PhD degree abroad. My plan is to try doing research and improve my research skills in this year so I could be more qualified in the future application. Challenges are obvious, the research process is hard, it is filled with uncertainty, sometimes the workload and the pressure may overwhelm me. I think the most struggling part is that we should attend lectures and do research simultaneously, this is very energy-consuming. But I think the clear future passion a.k.a the strong self-motivation could guide me through the difficulties. There would definitely be challenges and setbacks in the coming future. But who knows? Just make every day counts and keep persisting for the better.

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First of all, I would like to express my deep gratitude for all your dedication in the course of Computer Architecture. You are one of the most devoted teachers I have ever encountered in the College of Computer Science and Technology of ZJU when it comes to undergraduate teaching. Currently, my goal after graduation is to pursue a higher degree. To achieve this goal, I plan to gain a competitive grade among the batchmates while start participating in real researches by working as research assistant in laboratories of my department. Luckily, both objects have been progressing as planned so far. I have maintained the rank that allows me to earn a qualification to pursue post-graduate studies at ZJU, and the first paper I participated in has also been submitted. However, I am also deeply troubled by some issues. It is often said that "choosing is more important than working hard." First, up to now, I am still not clear about my own field of interest. Second, I have not yet decided whether to pursue graduate studies in my home country or abroad. I hope to have the opportunity to discuss the above issues with you. If you can spare the time, I would be very grateful.