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 were junior. And soon you will be as well within several months. The third year cannot be more decisive for your future. It is definitely helpful to think ahead. 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 pleeeeease, 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 complication 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. (I ran into him a few times lately and gladly knew that he would go to HKUST for PhD study. Congrats!) 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

Chapter 1 : Acknowledging the Present

Standing at the midpoint of my third year, I find myself in a place I never expected—retaking multiple courses, grappling with self-doubt, and watching peers advance while I feel stuck. The reality is harsh: I failed. Not just in exams, but in managing time, sustaining motivation, and recognizing my limits before it was too late.

At first, I told myself it was bad luck—a difficult semester, or a temporary slump. But deep down, I knew the truth: I had let distractions take over, procrastinated until deadlines loomed like storms (happen in first and half of the second year), and avoided seeking help because I didn't want to admit I was struggling. The shame of falling behind silenced me, and the cycle repeated.

Yet here I am. Not defeated, but awake. These failures forced me to confront questions I'd avoided: *Why am I still here just to suffer? What do I truly want?* The answers aren't fully clear, but the discomfort has become a catalyst. For the first time, I'm asking for help little by little. I'm auditing my mistakes without sugarcoating them. And I'm realizing that rebuilding—whether in academics or in life—starts with honesty about where I stand today, not where I wish I were.

Chapter 2 : Identifying Causes

At first, it was easy to blame external factors—*"The professor's explanations were unclear," "The workload was unfair,"* or *"I just had a bad semester."* But when I sat down and truly dissected what went wrong, I realized those were surface-level justifications. The deeper truth was harder to face: I was the common denominator in my own failures.

1. Misplaced Priorities

I treated university like an extension of high school, assuming I could coast on last-minute cramming and raw intelligence. But college doesn't work that way—especially not in technical fields. While my peers were building consistent study habits, I was splitting my focus between procrastination, half-hearted attempts, and distractions that felt urgent at the time (endless group chats, binge-watching, gaming). I told myself I was "relaxing," but in reality, I was avoiding the discomfort of real work.

2. Fear of Facing Weaknesses

There were concepts I didn't understand early on—signals I ignored because asking for help felt like admitting incompetence. Instead of going to office hours or forming study groups, I pretended I'd "figure it out later." But gaps in knowledge compound. By the time midterms arrived, I was drowning in material I'd never truly grasped.

3. Misaligned Expectations

I chose Computer Science because I loved gaming—tinkering with emulators, modding games, and understanding how they worked. I assumed CS would be an extension of that passion. But reality hit hard: while 20% of the material felt familiar (like basic programming concepts I'd encountered through gaming), the other 80% was foreign territory—hardware

architectures, low-level systems, and theoretical foundations I'd never been exposed to.

At first, I dismissed these topics as irrelevant. *"Why do I need to learn how a CPU pipeline works if I just want to build games?"* I'd tell myself. But this mindset became a trap. By only engaging with the parts that felt immediately useful, I neglected the fundamentals that make true mastery possible. My motivation wavered because I saw no direct link between the coursework and my interests—but in truth, I wasn't looking hard enough.

Over time, I realized: gaming was the spark, but CS is the toolbox. The "unrelated" hardware knowledge? It's what helps optimize game engines. The tedious algorithms? They're the backbone of smooth gameplay. I'd mistaken a narrow hobby for the full scope of the field. Now, I'm working to bridge that gap—not just waiting for motivation to strike, but actively connecting the dots between what I love and what I need to learn.

4. Poor Time Management (Not Just 'Being Busy')

I blamed "not having enough time," but the real issue was misusing time. I'd waste hours scrolling, then pull all-nighters, sacrificing sleep and retention. I didn't plan, didn't break tasks into smaller steps, and underestimated how long assignments actually took. The result? A cycle of burnout and rushed, subpar work.

5. Avoiding Discomfort

Studying hard is uncomfortable. Facing gaps in knowledge is uncomfortable. Admitting you're behind is uncomfortable. I chose short-term comfort (avoidance) over long-term success. But as I've learned, growth happens outside the comfort zone—and I stayed inside mine for too long.

Chapter 3: How Assembly Language Showed Me the Way

1. Passion Fuels Persistence

At first, I struggled to connect with most of my coursework—until I encountered Assembly language course. Suddenly, concepts clicked because I could see their direct impact: every instruction manipulating registers, every jump command altering game behavior. This wasn't abstract theory; it was the hidden logic behind the games I loved. For the first time, I *wanted* to dig deeper.

2. Curiosity Breeds Confidence

My questions shifted from *"Will this be on the exam?"* to *"How does this apply to…?"*—like linking Assembly to game decompilation or cracking. When I asked my professor about Obfuscation techniques I'd stumbled upon while cracking a games, their surprise ("You're already exploring this?") became motivation. Interest turned me from a passive student into an active learner.

3. Niche Knowledge Opens Doors

That curiosity led me to 软件保护技术 (Software Protection Technology) course, where I

could finally apply/test Assembly to real-world problems like reverse engineering and anti-tampering. It proved a truth I'd ignored earlier: even 'boring' fundamentals (like hardware) become thrilling when you chase their purpose.

4. The Domino Effect of Engagement

Once I engaged deeply with one subject:

- **I attended every lab, not for grades, but to test ideas.**
- **I try to find a community with that discuss the same topic (e.g., crackmes).**
- **I realized mastery starts with one 'hook'—then branches outward.**

5. The Cost of Earlier Avoidance

Looking back, I wonder: *Had I approached other courses with the same mindset—linking them to my interests—would I have struggled less?* Maybe operating systems could've been about game engine optimization, or networks about multiplayer latency. The lesson? Relevance isn't found—it's forged.

Chapter 4: From Survival to Exploration

Short-Term: Climbing Out of the Hole

My immediate mission is brutal but simple: pass the courses I've failed. No more excuses, no more magical thinking—just structured work:

- **Targeted Retakes: Focusing only on core subjects needed for graduation (e.g., Algorithms, Computer Architecture), dropping non-essentials that distract from recovery.**
- **Atomic Habits: 90 minutes of daily study (no zero days), using Pomodoro timers to avoid burnout.**
- **Leveraging My 'Hook': Applying Assembly-level thinking even in unrelated courses (e.g., visualizing OS scheduling as game resource allocation).**

Long-Term: The Dream vs. The Plan

If I graduate, I want to pursue a Master's degree—not for prestige, but for time to explore legally what I once fantasized about illegally:

- **The Dream: Crack a modern game just once, not for piracy, but to prove I understand its armor. (A childish goal? Maybe. But childhood obsessions built Silicon Valley.)**
- **The Plan: Formalize this curiosity into research—software security, reverse engineering, or virtualization. Turn a "delusion" into a thesis question: *"How do AAA games implement anti-tampering, and how might their defenses evolve?"***

The Reality Check

I know the odds: I'm behind peers academically, and grad schools favor consistency. But I also know this: obsession beats polish. If I channel the focus I gave to game mods into rebuilding my transcript, I'll have a story worth hearing—not just grades on paper.

Chapter 5: Gratitude and Looking Ahead

To the professor reading this: Thank you for taking the time to engage with my honest reflections and thank you for enduring what's essentially a 3 AM dorm rant disguised as an essay. While some might dismiss game-related aspirations as trivial, I appreciate the opportunity to articulate how these interests connect to my academic journey. Though this is our first interaction through this assignment, I believe you'll have valuable feedback after reading this - whether about my technical understanding, my academic approach, or even my unconventional perspective on computer systems.

I'll conclude with a line from Grand Theft Auto IV that's stayed with me: "We all do dumb things; that's what makes us human!" Perhaps my academic stumbles are just those necessary human mistakes before finding the right path forward. If nothing else, they've taught me to appreciate the learning process itself.

Personal Note:

I'm an international student from Indonesia. While far from being a master, I'm deeply fascinated by low-level systems—particularly in the context of game cracking and reverse engineering. Most of my practical knowledge comes from doing crackmes, cracking older game (partially) and studying documentation like RPCS3's PS3 emulation guides(a little), where I first saw how assembly and hardware knowledge translate to real-world software breakthroughs. I'm still learning, but this is the field where curiosity consistently outweighs frustration for me.

02

Well, I have to admit that this question is out of my expectation. Never had any teacher of a professional course would take the initiative to care about students on this kind of topic. But you did, dear kg!

I hope that I can obtain the Doctor's degree in the end of my academic life. Then, I wish I could work in a gaming company after graduation, because there will be more young persons and the environment would be better compared to other big IT companies.

I prefer doing 'software' things compared to 'hardware' things since high school. When I was in my high school, I took 'Technology' subject as one of my Gaokao subjects. In case you don't know, we have 'Technology' subject including 'General Technology' and 'Information Technology' as a formal Gaokao subject in Zhejiang now. We learnt Python in IT part, and metalworking, carpentry and electrician in GT part. I showed a greater interest in IT part than GT part, because the analog circuit was already disturbing me. I am just not good at this kind of things. I got a full mark in IT, and like 95 in GT eventually.

Sometimes I wonder why this happens to me as well. I have no reason hating those 'hardware' things. They did nothing bad to me, and I hate them for no reason. Maybe it is because I am not familiar with it yet. Maybe it is because Vivado the software sucks. Maybe it is because the process of writing Verilog codes, simulate it, and write it on the lab platform is troublesome. I just can't understand why. After all, the hardware-related courses in university are innocent, and I want to take them and master them.

Thankfully I am the lucky one. All teachers of hardware-related I met are very nice. I can't imagine what if the teacher is bad, while I am already saying no to the course itself! I wish I can pick up my confidence and try my best to beat most of the difficulties I would meet in the future.

I hope that in some day in the future, I can be a programmer to solve many practical problems in our daily life. Not need to be very very professional or be a top-scientist. Abstract works are too hard for me. Just be a good problem-finder and problem-solver, and that is enough. Use the sword in my hand well.

03

I'm a P-type person. When it comes to goals and plans, even though I know they can be big or small, I still can't help but feel a certain anxiety. My short-term goals? Probably to clear all my deadlines in good shape, raise my grades this semester, and get back into the habit of exercising. As for long-term goals and plans—honestly, I'm not sure. I'm still pretty lost. But I've always believed that life isn't linear. It's more like a game, with a mix of main quests and side quests, and the journey of fighting monsters never really stops. What matters, maybe, is picking up weapons along the way—and not forgetting where you started.

When I was a kid, even five years ago, I was convinced I'd study abroad. I looked forward to a new environment, the clash of cultures and ideas, breaking or reshaping biases. But as we all know, the current international situation has probably made that possibility less likely. You could say the outside world is chaotic—and so is my inner world. I often worry that my goals and plans can't keep up with the pace of change around me.

As for paths after graduation, there are a few possibilities: getting into a graduate program, going straight into the workforce, or studying abroad. (Though to be fair, that kind of covers all the basic options, doesn't it?) These paths may look different, but right now, I can work toward all of them in similar ways. For example: studying my CS courses seriously, getting started in research—maybe SRTP counts as a beginning—brushing up on LeetCode, building projects, and strengthening my resume. I believe that if I do all this, the fear of uncertainty about the future will lessen.

When it comes to life goals, here's something kind of funny: even though CS is already a big part of my life, it doesn't take up much space in the life I imagine for myself. Right now, Coachella is happening, and Lady Gaga's *Dance or Die* performance—so full of energy and color—made me realize maybe life doesn't need to be over-planned. Just love yourself, trust yourself, follow what you love, and go with the flow. What's meant for me won't pass me by.

Thank you, kg. You're one of the few teachers in college who's really closed the distance with us and genuinely cares. It's obvious how much you love your work and your life—something I truly admire.

04

I have never thought of goals in the first year. Hundreds and thousands of lessons and labs and homeworks filled me everyday. However, most of the necessary lessons seemed not necessary for me, including the Physics, Chemistry and Biology related lessons. The experiment lessons, especially, cost more time and efforts, with less gains. In the year I ended with messy scores and perhaps none beneficial technical knowledge.

However, in the second year, I think I woke up with something. Last semester in the end, I finally worked hard to study the Advanced Data Structure and Algorithm course. I was able to study the lesson clearly than ever before. And I begin to clearly listed some goals for the future, though not very big, most of which were targeted at the exam.

In the same time, the choice of tutors in the ckc tutorial system also made me think about the future. After clear thoughts and talks with my parents, I decided to choose one tutor in the fields of AI security and reliability. In the last semester, I studied something in causal analysis and used it to make some research in the leadership of the seniors. That made me work on something I was interested in and finally got some results. After that, I usually thought what I need and what I should do.

In this semester, I made great changes. I am studying one lesson related to Blockchain, which I think is an important node in my life as well. It was the first time one lesson in school I was so interested in. Though I think the teacher is not very good, I still learned through the Internet, completing the labs with the mind deeply digging into the principle in the background. I think I have managed to learn a lot beyond the lesson. Recently another choice though maybe unrelated is that I have chosen to deeply change my lifestyles and habits. I think I should not live without some thoughts about myself. I should live with excited thoughts. A few weeks ago, in the capstone presentation of SRTP, I was happy to prepare it thoroughly and ended with good result. I made some efforts to study the reveal-md structure and used it in the pre.

I was not skillful in the expression of my thoughts in English but I tried to show some important nodes in the campus. But now I think I have some goals to work for. I have decided to join one Blockchain project in Canada this summer, which I think is a good chance to learn and practice. I will also use the SRTP opportunity to study to do some research independently. I will also try to find the use of blockchain method in the field of AI security and reliability in the future not so far. I will work for the postgraduate recommendation, but I think my road never ends and I can dig more choices in the direction I am interested in.

05

First and foremost, I sincerely apologize for any linguistic imperfections in my English expression. Truthfully, this distinctive assignment has profoundly resonated with me—it marks the first occasion, aside from career planning courses, where I've been compelled to seriously contemplate my future trajectory.

Initially as a freshman, I harbored the idealistic assumption that merely completing institutional coursework would suffice to secure a position in game development post-graduation. However, I now recognize the naivety of this perspective. My current skill set lacks the specialized competencies that would distinguish me to HR professionals, while foundational domains like computer graphics remain largely unfamiliar territory. What I once romantically termed my "game development aspiration" reveals itself as an underdeveloped notion rather than a strategically crafted career blueprint.

This introspection has unveiled a deeper existential uncertainty. In contrast to peers in software engineering, cybersecurity, and artificial intelligence who navigate well-defined career trajectories, I find myself adrift in computer science's vast interdisciplinary ocean. The discipline's versatility, while intellectually empowering, paradoxically breeds professional ambivalence—I perceive boundless possibilities yet feel inadequately equipped to excel in any specialized domain compared to dedicated specialists.

Nevertheless, this existential quandary now serves as a catalyst for proactive transformation. I resolve to embark on a structured exploration of interdisciplinary opportunities, beginning with systematic study of computational graphics through courses like GAMES101. By auditing foundational courses across multiple domains, I aim to discover intersections where my aptitudes align with emerging technological frontiers. This methodological approach may ultimately illuminate a career path that harmonizes personal passion with professional viability.

06

The topic of goals and plans is still too grand for me now. From an emotional point of view, I don’t have enough passion for a certain goal to enable me to overcome the chaos of the future and move forward firmly; from a rational point of view, I have not yet been able to see the future clearly to a certain extent, so as to point out a direction that I do not resist and is beneficial to my development. Therefore, I am still exploring slowly. On the one hand, I try more things to find out if there are any goals that can make me passionate; on the other hand, I also find more information to see if I can predict the direction of the future. This is what I have done in the past two years.

But just writing the previous paragraph, the answer to this question is still a bit empty, so it is better to talk about some of my attempts and thoughts. First of all, let’s talk about my original intention of choosing computer science. The most fundamental reason for my choice of computer science is my fear of large language models. At least in 2023, I pessimistically believe that large models may eliminate most industries before and after I find a job. Instead of passively waiting for the impact to come, it is better to actively embed into the source of change and embrace change. So I chose computer science. But now I have changed my mind. The development of big models is entering a plateau period, and the industry bubble index is rising. If I blindly chase hot spots, I may just get the "black profit" of the next AI winter, and lose all my money.

But the big model itself cannot be ignored in shaping the future. "AI+" can foreseeably change the basic ecology of many industries. Therefore, future goals and plans still inevitably need to be designed around big models, but they need to be developed around its shortcomings - the "illusion" problem. "Illusion" is inevitable, which makes the application of big models unreliable in sensitive and critical fields. For the computer field, I think the closest thing may be security, filling uncertainty with certainty. Although it is still uncertain whether to go to scientific research in the future, for now, I am exploring in the direction of safety.

But after all, you can't invest everything in computers, and it is necessary to try other directions appropriately. The first is the basic subjects that I have to learn in my freshman year, biology, chemistry, physics, and mathematics. But in fact, when I applied for college entrance examination, I had decided not to take the path of basic subjects and not to participate in the strong foundation plan, because I think these subjects are either not interesting to me, or I don't have enough talent, or both. This time, I just became more determined in my original idea. I also tried the social science direction that I was very interested in before, but eventually gave up. But this time, I tried economics, which I had a big prejudice against before. I have always believed that the charm of social science lies in sorting out clear clues from extremely complex and chaotic systems to predict future development. Economics fits this feature very well, so it attracted me. Economics or finance, even if it will not develop in this direction in the future, after

all, living in modern society, it is beneficial to have a more systematic understanding of how the complex economic system behind it works.

In fact, the previous ones are all about the views on goals and plans, but the specific goals and plans are still uncertain. In order to complete this question, I will briefly answer other questions at the end: the biggest challenge in the future may be the basic errors in the current cognition; what can maintain one's motivation and determination may be the hope for the future and the contradictory psychology of fear and excitement about the unknown; and the advice I got from others, to be honest, is not very useful, because not many people can sincerely share their experiences with me, and they are often beautified and modified, and lose their reference significance.

I hope what I wrote is still of some value.

07

I don't have any clear goals myself, I prefer to take each step at a time. If have to say it, being able to work in an IT company and engage in software development should be good.

In terms of planning, at present, the main focus is to consolidate the foundation of computer science through courses and projects before graduation. Including underlying courses such as computer architecture is actually quite important for improving understanding of computers. Having a solid hardware foundation is necessary to write more efficient code, such as optimization algorithms, memory management, and concurrent programming. At the same time, I should also participate in some scientific research work to accumulate practical experience. The currently popular fields, such as deep learning, do not seem to be covered in classroom content, so additional research training projects are still needed to learn this knowledge. I really don't have any long-term plans, at least during my undergraduate studies, I was just preparing to learn what I needed to learn well. If I were to pursue graduate studies, I would have to wait and see.

The main challenge I feel should be my own personality. I don't have much curiosity or thirst for knowledge, basically everything is taught to me. And with the rapid development of computer technology, people like me may find it difficult to find internal motivation to keep learning. If there is no internal motivation, it may only be external pressure forcing myself to learn and improve. This may not be a good state, but no matter what, I have already walked this path.

08

It's sooooo nice to meet you!

After reading your words, I was deeply moved by your kindness! It feels like you are talking with us gently, as our friend. Your words almost cause me to shed tears, because I feel warmth and strength between the lines. I can feel that you provide help and care for students from the bottom of your heart, rather than out of work requirements and indicators.

I think the challenge I meet in CA study is sometimes I cannot clearly understand the meaning of the questions which are expressed in English. It often confuses me. And some English terms are hard to remember too(hahaha). (maybe some Chinese explanation in the PPT can help?)

I want to pursue a higher degree, but if I am not truly interested in research, I will consider employment. I want to be creative. I want to see more of our world, to find what I really love.

Thank you for all the guidance!!!!

Best wishes!

09

I am currently engaged in a SRTP project, collaborating with peers under faculty guidance to explore HCI advancements. This involves rigorous literature reviews, prototyping, and iterative experimetation
Post-graduation, I plan to pos- persue a postgraduate program to deepen my expertise in HCI or related frelds

I prioritze staying present and action-oriented. As the proverb goes "A warrior is as a warrior does". By focusing on incremental progerss — whether in daily research tasks or skill development — I avoid overburdening myself with distant uncertainties.

Senior researchers emphasized the importance of "comitting fully to one pursuit, even if priorities shift later". This mindset fosters resilience and a track record of dedication, which is invaluable in any career trajectory

While structured goals provide dei direction. I believe true fulfillment lies in the journey itself. My advice to myself and others is simple: " Live a life you deeply enjoy and will remember. If not now, when?" By balancing ambition with mindfulness, we can navigate uncertainty with purpose and grace.

10

Professor Bu Kai, I think your course is very good. During class, I can feel that you are very serious about teaching. You will remember the names of students and come to personally inspect the experiments. I always thought that university teachers have a lot of scientific research projects to be busy, so I was a little surprised that you are so attentive to the class. It's just that my English level is not good, and it is a bit difficult for me to listen to the class. But such an all-English course also exercises my English ability. I think the knowledge of hardware courses is much more practical than that of software courses. Especially in this course, we have been discussing how to optimize the computer architecture. I can feel what kind of application scenarios they have. I think this is a major feature of computer science besides programming algorithms.

Regarding future, judging from my current grades, it is more promising to be admitted to graduate school. Next, I should focus on the study of courses. If I can successfully be admitted to graduate school, I may go in the direction of artificial intelligence. But I still don't know what I will do specifically. I guess I will take it one step at a time.

11

As for my goals, I've actually been struggling with the decision of whether to go straight into the workforce after my undergraduate studies or to pursue graduate studies instead. And if I choose to pursue a graduate degree, should I study abroad or stay at my current university? For now, I feel that my abilities may not yet be sufficient for entering the job market directly after graduation, so I hope to continue my studies—ideally at ZJU for a master's degree. I've also considered going abroad or to Hong Kong for graduate school, in which case I would need to start preparing early—such as participating in summer research and working on projects that are worth presenting.

Over the next year, while maintaining a strong GPA, I plan to focus on completing my SRTP project as a way to begin my research training. It's not only an opportunity to strengthen my skills and learn more in-depth knowledge, but also a chance to find out whether I truly enjoy research or not.

Another important aspect is foreign language proficiency. Honestly, I've never really liked English—I only studied it in high school to get through exams. Now, I find myself struggling with it (sadly). For example, in your computer architecture course, I've found it difficult to keep up because it's taught in English (why isn't architecture considered "international" anymore?). If I want to go deeper into this field in the future, language will definitely be essential—I can't always rely on translation tools...

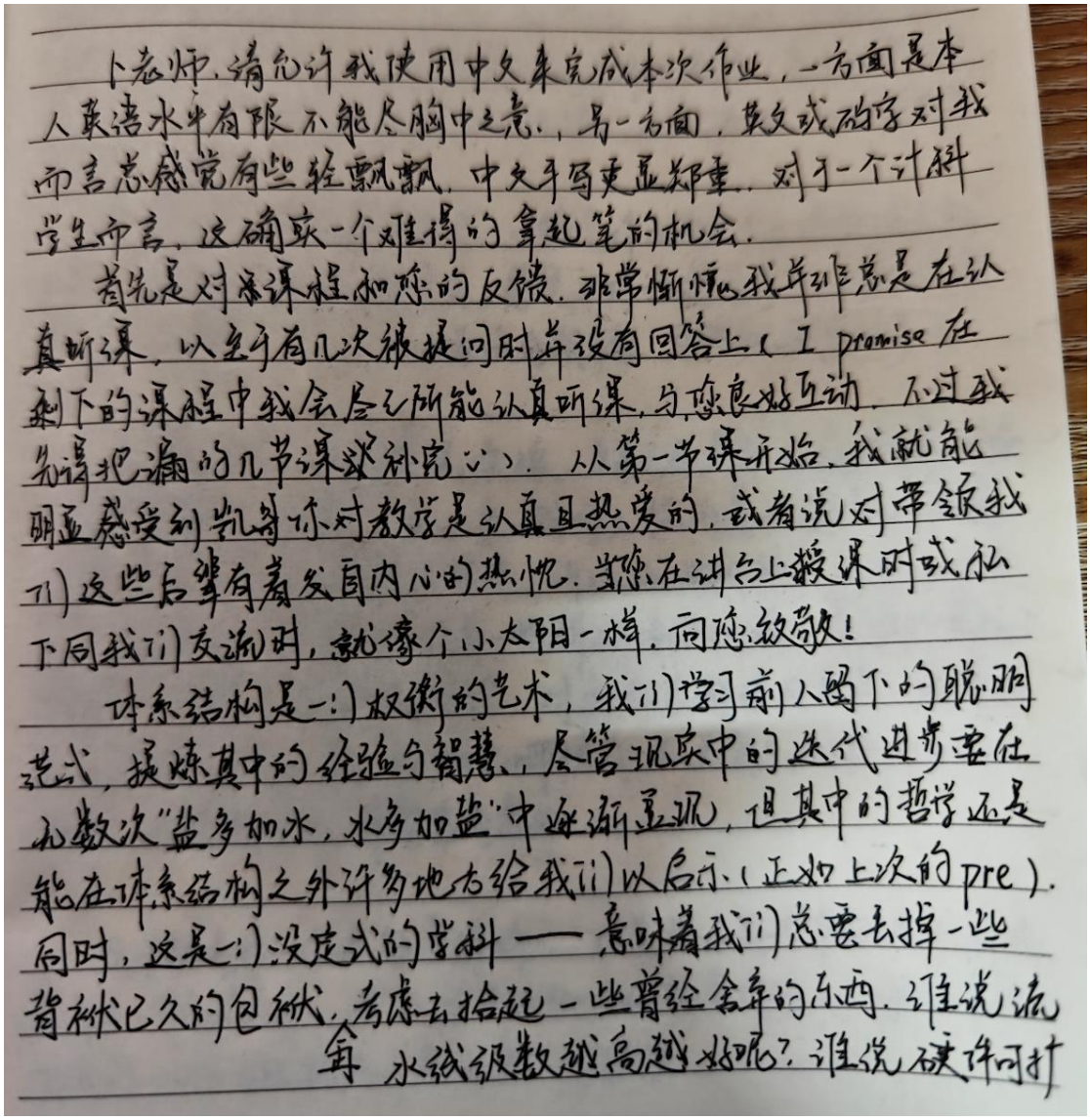
No matter which path I eventually choose, I hope to become a CS student with the ability to learn independently and consistently deliver value. My goals may evolve as I grow, but through this period of preparation, I want to ensure that I can make future choices confidently, rather than just passively accepting whatever comes.

Right now, the most important thing is to stay focused and not let anxiety hold me back—and to remain curious, so learning doesn't become a burden. Step by step, I believe I'll eventually find my own path.

12

我认为我毕业后的目标，按照现在的规划是直博，但是去企业还是高校没有定，这个要考虑未来的家庭因素。我其实更喜欢自己主动地学习知识，而课内的CS课程对我而言并没有机器学习一类帮助大，或许在我看来可能更多面向的是本科就业而非深造，但学习他们本身是一种知识的享受，以及让我们更全面地认识这个学科。
刚进大学，我感觉自己志气很高，混合班选拔时，我对自己的介绍是“做将来某个领域的带头人”，但现在的我对自己并不满意，尽管大一拿了国家奖学金，但是大二的专业课成绩并没有那么理想，我觉得自己在学习思维这方面不进反退了。而且大学以来，也没有碰到那种志向比较宏观、追求较高的同龄人，优秀的人很多，但也只是众所认同的优秀，没有那种我渴望的做出超越性贡献的人，也没有在我看来真正是“优秀的”那些人，大家都好平庸。我自己认知又太匮乏了，比起男生，感觉进步地非常慢，对目标的摸索也很不清。或许最随波逐流的情况下，我可能就成为芸芸众生中“优秀”的普通一员罢了。

13



展性越强越好呢？从SISC到RISC，从SIMD的层花一现，我们都能看到关于技术的更替兴衰，潮起潮落。某技术是否会过时呢？下个可能的技术会是什么呢？在上课时，我时常思考类似的问题。

如果硬要对课程提些要求，可能是作业有点少（请别说是我提的）课程的最后是期末考，感觉平时的练习少了，对考试始终有些隐忧。（不过如果没有期末考，自然就没隐忧了）

关于我的目标，我希望先读研，毕业之后是就业或读博，目前并没有很确定的打算。一直以来，我对大脑有着很强烈的好奇，碰巧浙大有脑机国重实验室，所以我现阶段也同那儿的老师取得联系，慢慢地做着一些科研探索训练。类脑计算机？意识决、情感的检测或调控，对我而言都很有意思。希望我在正式成为研究生之前，能做出哪怕有一点点真正创新性的小东西，这对我而言，非常富有意义。

我可能并非一个很能坚持的人，但是我还有很多蜕变的机会。或许在一年后的今天，我"不巧"成长为一个很能坚持的人，谁知道呢？生活的一大乐趣就在于见证自己的蜕变。

14

In the future I would like to go to a research position in an internet company. So first of all I would like to secure a graduate program at my university, and in the process of studying for a master's degree determine if I am suitable for research, if so then master to PhD, otherwise I will study until a master's degree, and then prepare for an internship in a company and get a job. So what direction should I go for my master's degree? Currently I am interested in the underlying algorithms of AI, maybe I can also explore the direction of vision. But I don't have enough reserves in this area, I need to have enough knowledge about it through self-study before my junior year.

Because I'm interested in research, I've tried to find lab internships since my sophomore year, but none of them have worked out very well. First of all, the workload of CS's major courses is so heavy that it is difficult for me to strike a balance between internships and daily study. Secondly, I went to two labs, I don't know whether it's because my limited ability can't meet their requirements or the lab siblings are too busy, they didn't teach me enough, which makes me anxious. I signed up for the SRTP program this semester, and I hope that SRTP will force me to develop an awareness of the complete research process. In the process of trying to do so, some of my older siblings have given me a sense of what is expected of me in terms of my ability to do undergraduate research. They said it would be nice to meet more people in the current lab. However, I'm very introverted, and I'm not really used to socializing with casual climbers when I don't have anything serious to interact with; I even think it's a sign of inefficiency. At the same time, I'm curious as to why I'm so different from my seniors' abilities when there's only a two or three year difference between graduate school and undergraduate school, and I'm skeptical about how to make up for that gap.

If I were to give some advice to those who came after me, I would like them to realize the importance of self-study earlier, to find the direction of research they want to do early, to master and understand it, so that perhaps they will be more confident in their lab internships.

15

Actually,I don't have any advices,I think the class is definitely great. And the questions in the class is a nice way for me to take my attention into the class.

Finally,I'm looking forward to have an interaction with the teacher

16

计算机架构给我带来了很多思考，包括曾经在计算机组成中学到的八大原则，包括Amdahl定律（其实它的反定律Lhadma定律给我的印象更深刻hhh），包括流水线。如果说我从中学到的最深刻的原则是什么，那就是：找到一条简单的原则，并一以贯之。

计算机组成的八大原则中有一条是：*Use Abstraction to Simplify Design*。这告诉我们越规整简洁的设计，往往也是越有效率的设计。无论是RISC-V中的指令架构设计，还是Pipeline中的五级流水线对齐，它们或许在设计的时候只是单纯地遵循了整齐、规范、简洁的设计原则，但是这种设计却会在后面的实践中产生意想不到的效果。包括老师在上课中讲到过关于FP Pipeline的设计，其实也是遵循了这种规则。简单的设计或许不会适用所有场景，但它一定是最均衡的那个（此事在堆的效率中亦有记载hhh）。

因此，这引起了我的思考，生活无疑是不确定的，但是我们该如何应对波诡云谲的变化？从计算机体系结构中，我一窥答案。孔子曰：“吾道一以贯之。”人生虽然复杂，信条却可简洁。我需要找到我人生中的黄金法则，找到我的Common Case，然后贯彻它，让它Fast起来！

就像我现在仍不清楚我对我未来的规划一样，也许是就业，也许是创业（科研就不考虑了hhh没那实力），也许是考研，我还没有找到我的Golden rule,但我现在也许有一个Golden Idea：能够在计算机一道有所创造，为AGI添砖加瓦。虽然身为一个大二的学生，我现在的水平非常低微（也许以后也不一定很好hhh），但我确实对纯粹理论的智能有种兴趣，并希望能加入这个崇高的事业（就像物理学家们献身与大一统理论一样）。而计算机体系架构身为其中最纯粹的部分之一，也是我十分感兴趣的课程，这门课的理论知识与哲学智慧让我受益良多。

无论未来怎样，我都希望我能够跟上计算机的步伐，目标是可能帮助现有的计算机做一些突破hhh。当然受制于自身水平，如果不能再科研领域有所作为，我也希望能够将计算机技术应用于现实，比如我对工业4.0十分感兴趣。当然这一切都要看我自己的努力和决心！

17

Dear Professor,

First of all, thank you for your meticulous design and earnest teaching for the course.

There are so many differences between learning in university and in high school. With few familiar classmates and teachers changing for almost every course, I often feel lonely when studying. I haven't decided yet whether to pursue further studies or start working after graduation. The lack of a goal often makes me feel lost, and I have long forgotten what I used to pursue. I'm grateful that your words can remind me of some of it. Still waters run deep. It's very rare and precious to be able to focus on doing our own things in this era.

My grades are not good, so I might find it a bit difficult to offer any suggestions on the course. Although the course is entirely in English, I think having the opportunity to take such a course is still a good practice for the English learning. It's quite rare to have such an English-speaking environment. I think it's my own problem that I didn't do well, and the course is actually very good.

When choosing my major, perhaps I didn't have much passion for it, and my foundation was poor. So during the process of learning computer science, I can rarely experience the joy of acquiring knowledge. This makes me wonder if I should continue to pursue further studies in this field. So I plan to interview for some jobs in my junior year to accumulate experience in interviews or work. If working gives me a more fulfilling feeling, I might consider entering an IT company right after my undergraduate studies.

I'm also an introvert, so I really admire how you can practice your oral English to such a smooth level and never seem to get stuck during class. Regarding interviews, apart from professional knowledge, how to stay calm is also something I need to learn. There are many related experience posts, but I think it's more important to just give it a try myself. I will try to step out of my comfort zone.

If I encounter some problems that I can't solve in the future, maybe I will ask you for some advice at that time. Appreciate for your diligent teaching and generous help again. Wish you happy every day!

Sincerely,

18

Wow (kg's classroom culture that I'm not very familiar with but respect), what a question !

But, let me point out a BUG in the document first. ”Most students in the computer architecture class were junior“ should be revised to ”sophomore “ from our current batch of CS sophomores ???

Get down to business . Well, honestly, I've got a lot suggestions about future goal and plan from many people like my elder brother , part-time instructor and even the TA of my Computer Organization course.

Let me briefly talk about the influence of two people on me.

TA is a Lord-Jing (typical chubby guy from the north) and grows up in Tsinghua University since childhood. Despite failing the college entrance examination and coming to Zhejiang University (???), he has successfully been recommended for postgraduate study in his senior year and returned to Tsinghua University successfully. As the one closest to my age, he reminded me not to be confined to classroom assignments in college, especially those with heavy workloads and little significance (so when inspecting experiments, he focused on asking questions rather than coding) . After the last experimental inspection, we even went to Degenerate Street together for a small hot pot meal. We talked a lot, from academic experiences to the future direction of being recommended for postgraduate studies abroad (even joked about if I'm not knowing where to go in the future just going to his laboratory).

No one has a greater influence on me than my elder brother (The first college student of three generations in our family)! As the saying goes, the elder brother is like a father. Although he is 11 years older than me, he even plays games and shares daily life with me . Meanwhile, he is also one of the people who strongly support my future study abroad and the one who inspires my interest in studying abroad. The influence my elder brother has had on me is beyond words, so I won't elaborate on it. But I can't help sharing a sentence he once said to me: I'm here for everything at home. Just go for what you want .

At CKC College, the pressure of being recommended for postgraduate studies in our school is not very high. Therefore, I am currently preparing for going abroad. Inevitably, considerable pressure follows, ranging from pre-set professional courses, SRTP projects to the study of prerequisite courses assigned by the supervisor.

Writing this answer is like revisiting and affirming my personal thoughts. The future is no longer as fixed as it was in middle school, just like the answer to this question. There is still a long way to go (definitely not that I'm sleepy), so I won't write too much.

Good night.

19

This passage written by the teacher deeply touched me. It made me feel that the teacher is very serious and concerned about this course and our future.
Regarding my future plans, although I'm already a sophomore, I still don't have a very clear idea about the future. At present, my recent plan is to pursue a postgraduate degree for further study. To put it simply, it's just to enhance my academic qualifications. At present, I am preparing to join the project team of large-scale traditional Chinese painting models. The project is still in its early stage and has a very large space and direction for development. I would like to try this opportunity to see if I can delve deeply into this area. If possible, I hope to conduct research in this scientific research field.

20

Dear Teacher,

First of all, I want to say something about the computer architecture class. Before the first class, I was a bit afraid as the class would be in English. My fear soon faded away because of the relaxed atmosphere and your wonderful lectures. Apparently, you were well-prepared for every single class. I think everything about the class is beyond my expectations. And I'm here to express my sincere gratitude to you! What I think is the main difference between the labs of computer architecture and those of computer organization is that we can finish the labs in a team. Cooperating with teammate not only improves efficiency, but also makes us learn from each other, strengthening our friendship as well.

As for me, to be honest, my plans for the future are not that clear. Although it is sure that I'll perse a higher degree after graduation, I can't tell which school or which research direction I prefer now. But I think this situation won't last for too long. Looking at myself, I think I should be more hardworking and self-discipline. I'm still a lazy person right now and it's time to change. Not being an outgoing person, I'm too shy to have an appointment with you. (I think I will be overwhelmed with awkwardness.) But that doesn't mean I don't like you. On the contrary, I think you are a very wonderful teacher from all aspects.

By the way, when I see "So pleeeeese, live a life you deeply enjoy and will remember", my first thought was "He said, 'one day you'll leave this world behind So live a life you will remember'...". And after clicking on the link, it was *The Nights* indeed.

At last, please forgive my poor English, which made me frown in the process of writing this. Thanks a lot!

21

个人意见：其实我觉得现有的讲课方式已经非常合理，因为全英文授课所以同学们可能需要一些时间消化老师讲的知识，这个时候老师就会重新用中文讲一遍，非常的贴心。如果非要说能怎样改进的话，我觉得每节课可以提一两道例题，用问题刺激同学们，保持专注度。
感想：前半个学期体系结构涉及的内容主要是对计组已有知识的扩充，只要认真听其实不难理解。整个授课的过程我更多地从工程师的角度代入，去感受计算机科学的进步，思考如何提升计算机的性能或者支持更多更高级的功能。这样的视角更能深入课程内容，体会自己所学知识的意义。联想到自己进入导师实验室的相关工作也是体系结构优化方向，在某个瞬间我也希望自己所作的研究能够为计算机科学的发展推波助澜。
规划：我理想的规划是在浙江大学继续深造，不一定继续做体系结构方向研究；这样的选择并不少见，我需要专注学业的同时平衡科研任务，或许还需要兼顾其他方面。听起来时间分配就是一个大问题，没错，在接下来的一个学年我会面临更加严峻的时间分配的挑战，来自绩点和科研的压力等等。说实话我也没有足够的信心能够坚持下来，但愿我的信念足够坚定。我从学长跟老师处得到最多的建议就是“走在正确的道路上”，换言之，选择大于努力。这也教会我对事物勤加考察，慎之又慎（当然有时也因此错失良机），但毕竟自己做出的选择没有后悔的理由。这也是我对同龄人的建议，相信相信的力量。

22

凯哥好！我英语不好所以就用中文了…… 我打算毕业后继续深造，大概率是通过保研的方式，并且现在已经进组开始学习科研，也有一个相对不错的成绩。我目前对生成式人工智能比较感兴趣，而且这也是当下互联网科技的风口，因此我在研究生阶段也会以此为研究方向。以此为目标，我有幸得到一位非常优秀的学长的指导，开始跟着做科研，从一开始的数据标注的杂活，到后来开始写数据处理的代码，再到现在开始看论文，写综述，在这个过程中积累到了不少知识。

然而关于科研，我现在仍然有一些困惑。我上个星期刚好去听了一次韩劲松老师主讲的竺涯共语，他专门针对如何做科研给我们提了些建议，特别提到一点：不要等到所有东西都学完了再去科研，而是首先应当针对要解决的问题，找到解决方法然后应用即可。虽然我听后受益匪浅，但我必须承认这打破了我的认知，因为我以为只有将一个事物从古至今的发展都参透了才能在此基础上进行创新，比如假如我做大模型，至少应该先把机器学习、神经网络学明白之后，我才能知道我在做什么东西，要怎么做。

还是说，以一般人的能力，根本不可能做出那种突破性的科研成果，也就不需要那么完善的知识？带我的学长也跟我提到过，其实大部分的科研都是灌水，而他们在做的，大都是将别的领域的成果适配到自己领域，这已经是非常不水的了，更不要说真正做出新东西来。

而我为什么会纠结这个问题呢，跟我自己本身也有关。我有信心学会任何东西，但是我学的非常非常非常的慢。如果可以的话，我真的很想把所有东西都学了，不管是关于自然世界还是人类社会，但不仅这不可能，正如韩老师所说的，要把人工智能一个领域的知识全部学完也是不可能的。而我又是一个做什么事情都很慢的人，这种情况下我该怎么取舍呢？

最后是我对体系的一些看法。其实从第一堂课就能感受到 kg 对这门课的热情以及对我们学生的关切，这也是为什么我一直坐在第一排，但是真的不是我不想听，我坐第一排就是为了 push 自己听课的，但是体系前半学期的内容真的跟计组重复太多了，这个问题在往届学长的回答中也有不少提及。所以每次想听的时候发现 kg 在认真剖析一个我已经会的东西，我就分心去干别的事了…… 而且最吐血的是这课还会在我们学过的内容里掺杂一些新东西，于是我只能翻 ppt 找那些新知识点，但 kg 的 ppt 又是不像那种纯复制粘贴知识点的 ppt，所以找起来还相当有难度。比如动态电压频率调控，带浮点数的流水线，还有 cache 里一些零碎的知识，都是新的。就像是以一种更细致的方式把计算机组成重新上了一遍。而到后半学期真的开始上新内容了，脑子却还没跟上，所以大家都开始说“听不懂”了。这是我一些真实的想法，也许 kg 可以参考。并且我保证以后一定认真听课！

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- 你毕业后的目标是什么?
- 你打算如何实现这个目标，可能会面临哪些挑战?
- 如何保持动力和决心?
- 从学长学姐和教授那里获得了哪些有用的建议?
- 你会给有类似目标的同学什么建议?
- 如果你还在寻找目标，不要急于做决定，时间会给你无限可能

今年也是开始在实验室学习：以听网课和看 paper 为主，五月份预计会参与学姐项目的一些小活；
另外因为 SRTP 的开展，认识了另外的导师和学长，也赶鸭子上架式地在半个月里读了很多 agent 方向的论文，努力做答辩，结果不是特别好但也感觉自己尽力了。anyway，看论文比课业学习要好玩一点

遗憾的是我觉得我的技能点加在了 social 和处理人际关系上；然而计算机可以说是最不需要人际关系的学科了。但是这也有帮助：我认识了很多很 nice 的学长学姐，也取得了很多帮助。

在实验室的学长帮助了我很多，他告诉我这个世界上是有自由的：不是本科期间无人管束的，错过的就没有的自由，而是虽然忙碌，但是为了自己而工作的相对自由——他说服了我，我认为这是一种虽然艰难，但没那么虚无缥缈，可以达到的自由。

在刚开始学习计算机的时候我非常迷茫，我上学期经常痛苦地感觉到需要学的东西怎么那么多，一头雾水。后来我发现要在一切未知的知识中取得一个最合理的序列，于是跟着实验室学长的“on boarding for Yujie”一点一点听——难过的是由于课业压力和 SRTP，我已经很久没有听实验室的网课了。之后还有两边的 work 需要 follow 一下。

我还是觉得：科研，学业，生活，睡眠这其中我无法做到两者以上的 balance。尽管我绩点很高，各方面也做的还行，但是我从大一到大二的印象就是：持续地 coding，debugging 和 Learning，偶尔有时间去享受一下生活（我喜欢和挚友待在一起以及跳舞），偶尔会太过于幸福而不得不 back to normal life。

我从前是一个相当不服输的人，也相当焦虑。后来我长大了，在这一年中我放过了自己（当然也没有那么精益求精了），学会了很多沟通技巧。这不知道是好事还是坏事。每次写代码写到崩溃的时候（对不起我还是一个脆脆的小女孩）我会跑到家庭群里哭诉，然后妈妈会跟我说，过得开心就好。

过得开心就会好吗？我仍然不甘心。引用《查拉图斯特拉》中的一句话：
“你还没有自由，你还在追求自由，你的自由使你彻夜不寐，过于清醒。”
我想我会继续做下去，只要不至于崩溃（

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~~因为中文的熟练度更高所以用中文写吧~~

我的目标还是非常明确的（笑

去国外读PHD，然后找一份大学教职或是企业lab的研究工作

读PHD是肯定的。我享受独立探索解决问题的感觉，也有一种"不作出什么贡献就白活了"的使命感

感兴趣的研究方向有很多，但全部都围绕虚拟世界和虚拟生命展开。能看到其中的一个实现就无憾了（

~~目前在做的课题是动作生成，也算是有关吧~~

有几个问题想和老师您聊聊：

- 听说在申请phd时有推荐信+connection is all you need的说法，请问这种说法合理吗，是否意味着绩点并不需要特别高（我目前大约只在20%左右），而可以把精力放在实验室打工或者给暑研的老师remote打工上（这样绩点还会再往下掉
- 老师对虚拟世界（元宇宙？）和虚拟生命（人工智能？）有什么想法

如果能当面聊一下就再好不过了。老师什么时候有空可以在钉钉上戳我一下，我随时都行。感谢老师！

25

a

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?

毕业之后应该是读研，目前大概率是保研，没有怎么准备出国的事情。但是没有想好研究方向，感觉找一个合适的课题组是很难的事情。希望通过这学期的 srtp 可以先入门科研感受一下，暑假里应该要找个实验室去实习。

研究生毕业之后，我希望就在杭州工作，住的离爸妈近一点，可以经常回家。

其实我还有一些不切实际的幻想。比如说等我对自己所在的领域有了深入的理解，在技术上也能够独当一面，也许我能找几个志同道合的人做一个创业项目。（其实也不局限于计算机领域）但这个就很难预测了，而且风险很大。

What is your plan to achieve that goal and what challenges might be involved?

保持一下绩点，然后在空闲的时候多去实验室。其实我还想找实习，但是感觉现在简历上都没有什么东西，未必找得到。

很多困难，我还是不太懂科研具体是怎么做的，怎么发论文。真正工作的话，感觉现在没有掌握任何一项符合工业要求的技术，还得自学不少东西。而且最基本的，我平时上课也遇到很多困难，感觉对我来说课程难度还是蛮大的。

How do you manage to be motivated and determined?

我目前是一个比较现实，没有什么科研理想，对专业也不是太感兴趣的人。我更关注未来的生活质量，生活和工作的平衡。所以只有我选择一个合适的细分方向，能够发挥我的特长，而且能积累一定的技术竞争力，才可能在未来的工作中获得期望的薪资，同时不那么累，有时间做自己的事情。

当然，如果能找到自己真正感兴趣的方向，让自己在未来的科研和工作中能够感受到快乐和成就感（这里指一个非常理想化的状态，就是每天起床去工位的时候，都是像去旅游一样很期待很兴奋），那就更好了。

所以，主要是对未来的一些期待，能让我保持动力。而且上学本身也没有那么痛苦，很多时候 Lab 做出来，学到新知识，还是很开心的。

What helpful advices or suggestions did you get from senior students and professors?

感觉和学长和老师交流的比较少，基本都是和同学交流。这点需要改进。

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."

b. if feedback from me is expected, please also indicate whether a discussion appointment is favored.

其实我觉得上面我提到的问题和困难，很多需要靠我自己的思考和尝试去解决。但如果老师愿意给我一些建议，那当然也很好，非常感谢老师的时间。

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Well, I'm not sure about my goal yet. But I did get some suggestions from senior students and teachers.

First of all, improve the current learning approach by categorizing selected courses into three tiers based on th eir importance: challenging, moderate, and relaxed. Allocate study time accordingly with clear distinctions.

Secondly, Aim for a direct Ph.D. program to maintain continuity in your research trajectory.

What's more, Avoid isolation—engage with positive, driven individuals, diversify your information sources, and cultivate growth within a broader, holistic framework.

These suggestions may also be applicable to peers.

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毕业之后希望可以继续读研究生，最好有机会去国外，在不同的环境和体系下学习，一是因为据自己了解觉得国内外在教学和思路尤其是计算机这一门学科上还是有差异，想看一看另一种学习的思路，二是因为自己是杭州人，从小到大都在同一个地方学习长大，很希望能出去看一看。当然最重要的是，希望自己可以在这一门学科的学习道路上有属于自己的不可替代性，即有自己很独特的创造，这是最大的愿望。为了实现，我想在完成日常学习任务的基础上，可以多做项目，自己多研究一些有意思的课题，为之后的学习打下基础。

上大学之后从老师以及学长处获得的最宝贵的建议（或者说是感受）就是，在大学之前的学习可能更提倡按部就班的生活，很少有机会思考What I want 或者 Which things are that I'm glad to do 的问题，现在越来越感受到遵从自己的内心，讨论自己真心想讨论的话题才是最重要的。

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1 ==========

The biggest problem I face when studying computer architecture is that it is hard to follow the teacher all the time, because i am poor in English. Well , it does do good for us students to take courses taught in English, and I regarded the computer architecture class as a good chance to practice my English.

I don't have any other suggestions. The teacher is kind, and the course is good. :)

2 ==========

I planned to stay at school for graduate studies after my undergraduate graduation. In the second semester of my sophomore year, I participated in some research activities in the field of embodied intelligence. At first, I read a large number of papers and was introduced to the ideas and developments in the early stages of this field, which brought me many gains. I am very grateful to the teacher who guided me at that time. However, after entering the lab, I realized that my abilities were not enough to support me in completing more complex tasks. The tasks assigned by the senior students were often data labeling and running simulations, and I often spent 3 days or even more just setting up an experimental environment. I understood that I could catch up with the senior students through continuous learning, but I found it difficult to strike a balance between coursework and research. This is because my GPA in courses is also very important, and making significant progress in research often requires several months of full-time work, which I found hard to accept. Actually, by this point, I had already made my decision: to spend more time on coursework and then engage in some research. I worked on an SRTP project with my classmates, also in the field of embodied intelligence. But I still feel regretful that I am actually being held back by myself. In the lab, there are senior students who had already published first-author papers during their undergraduate years, and I think I can communicate more with them in the future.

If I decide to pursue graduate studies, I'm not sure if my future path will turn out the way I envision it. I consulted a senior graduate student who studies mathematical theory in computer science. He expressed deep regret about his decision to pursue graduate studies because, in reality, much of the work they do is outsourced. Then, I came across many graduate students online who are struggling with their research or suffering because of delayed graduation. I feel somewhat anxious about my academic life after graduate school

Thank you for your patient reading

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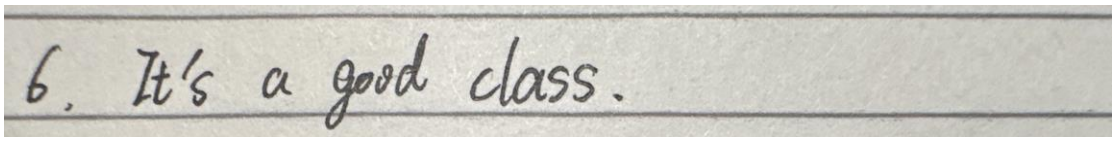

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I'm sorry that it's difficult for me to offer profound insights. For me, answering questions in class might be disturbing. During the course of study, I always feel that I seem to have a basic understanding, but when asked, I still get confused, even if it's a question that might seem relatively basic.I want to say to my future friends, do what you can, find the people or things that can make you passionate, and go for it.

Finally, I would like to conclude with a sentence I saw on CC98: "You can be just the one you wanna be", for mutual encouragement.

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对于我来说，硬件课其实都不是那么轻松，但在体系中我也学到了不少东西。虽然有时候需要思考很久，但慢慢地也可以理解为什么要学习这些，也可以理解知识之间如何串联起来。

虽然我并没有百分百确定本科毕业之后要去做什么，但是我的心中也已经有了一些选项，现在的我要做的就是做好当下的事情，并且为之后的选择做好准备，在面临选择时根据自己那时的情况再做出选择，无论是读研还是工作，都是需要现在的我为之做出一点一点的准备的，到那时的我就不会非常地无措，有准备总是比没有要好的。

在和一些学长学姐聊天的过程中，在看他们的学习轨迹的时候，我还是可以从中得到很多启发，很多学长学姐也在我向他们请教问题时毫不吝啬地给我解答，每个学期也总是可以碰到很好的老师，在上课的过程中也提升了自己。

或许我经常会有些慢，但是我总感觉慢慢的似乎也没什么关系。

最后，也很感激这个学期可以遇见像您这样温暖的好老师。

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我希望自己今后能够在计算机领域的应用世界有所创造而不是只是简单的做一些“缝缝补补”的工作，但我也感觉本科阶段的学习缺失涉猎不深，所以我当前是打算夯实本科阶段的基础并为未来读研究生做准备。人总是会恐惧未知，也没有人能够一帆风顺，所以有了阶段性的目标，接下来的挑战就是如何“走下去”以及“下一步去哪”。在这个过程中，毫无疑问是需要动力的，但我问自己，认为最重要的还得是“热爱”，或者说“兴趣”，因为我感觉失去了它，生活才会逐渐失去色彩。其次还有对未来的一种憧憬，这是世界对生活的补偿吧。而最让我受教的一句话还得是“走自己的路”，只有自己对自己的路有选择权，也只有自己是自己的责任人。

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About my plan and thoughts.

I used to hope that I can become a Live-in-the Moment soul, though I am actually a man who like to hesitate. A s the time in college passes in a flash, however, I gradually realize that I must take something into consider.

When I first realized this, I feel very uncomfortable because of the confusion to the future. In college, I have a mediocre GPA, which means that I am hard to secure a postgraduate recommendation. Except this, of course I c an have other choice, like go aboard to pursue a further study, or integrating a Bachelor-PhD program, or just ta king the postgraduate entrance exam. Or maybe directly starting finding jobs after graduating with a bachelor's degree. I know I prefer to study further, so this is out of my consider. However, I just want to express that there are really so many choices waiting me to consider.

So I used to feel so confused. I looked for aids from my senior students or teachers, and just my parents. They a ll told me one thing, that is **You have to figure out what you really want and what you really adapt to.**

So I come to the first word I wrote before. I want to become a Live-in-the-Moment soul. But that is not to say I want to enjoy everyday and take no effort in study, actually it's to say that I should start working from now. For this moment, my main work is to improve my study, but not considering if I could secure the postgraduate reco mmendation. If I succeed, that is all right; or if I lose, there is no matter to choose taking the postgraduate entra nce exam, and I believe I can succeed finally. So after realizing this, all the anxiety and confusion just melted a way. That is just the best suggestion for me.

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Course Suggestions:

This semester's Computer Architecture course is essentially an in-depth continuation of the Computer Organization course, so in terms of understanding and learning, the cognitive framework from previous studies has already been established, making it less challenging to grasp new concepts. However, because the content of the Architecture course is quite fragmented and complex, it still poses some difficulty. As a result, I sometimes feel a bit confused even after class. Therefore, I hope that before each lecture begins, there could be an outline to guide our learning framework—including key concepts to master, problems to solve, etc. I believe that learning with clear objectives will help us absorb the material more purposefully and systematically.

Regarding classroom interaction, I think it's a great way to stay engaged and think actively. The reason I often hesitate to participate is that I'm somewhat socially anxious and worry that my answers might not be accurate or professional enough, or that I might have missed a point already covered in class due to distraction. This holds me back from attempting to answer questions.

To excel in this course, I think organizing notes effectively is crucial. The subject matter is extensive, and relying solely on the instructor's slides would make review time-consuming and inefficient, without forming a personal knowledge system. However, I haven't done well in this aspect yet and need to invest more effort in improving my note-taking.

Future Aspirations and Goals:

I feel like I've always been somewhat short-sighted—my goals tend to focus on the present. I don't have a role model I deeply admire, a burning ambition, or a passionate hobby. My greatest enthusiasm lies in simply enjoying life. As a result, I'm still stuck in a student mindset, without concrete plans or proactive enthusiasm for the future. I just hope to do well in the present so that when opportunities arise, I'll be ready and qualified to seize them. However, people around me—whether my homeroom teacher, academic advisor, or seniors—keep emphasizing how important it is to set clear goals. So, before my junior year begins, I hope to explore industry trends and potential interests more thoroughly to solidify my future plans.

As for advice to peers, since I don't consider myself among the most outstanding in my age group, I'd rather share my current mindset than prescribe guidance. When faced with tough decisions, I ask myself two questions: *"If today were the last day of my life, would I regret not making this choice?"* and *"Will this choice enrich my life with joy and fulfillment, or will it add unnecessary burden?"*
These questions have helped me seize opportunities to experience life more fully and discover unexpected happiness. I remember someone once told me, *"If there isn't even one thing in college that you'd skip class for, isn't that a bit of a pity?"* (lol, strike that🙀).

Though I've struggled with anxiety and emotional lows in the past, I'm grateful that I've remained someone who actively seeks joy in life. I hope to carry this optimism and ability to appreciate happiness into the future. Moving forward, I want to embrace life more boldly—to feel what I've never felt and try what I've lacked the courage to attempt.

So far, my goal after graduation is earning adequate money, enough for me to support and repay my parents, to help them live a better life without the worry of money. I hope I could earn enough money to enable them to get better treatment and care, to reduce their physical pain. Besides, I hope I could be a teacher without the pressure of making a living, in which way I could fully focus on teaching and interact with my students, instead of considering wages every day and cannot enjoy the teaching career. Thus I hope I could enter the Internet enterprise and save enough money to support my life first, then after maybe 5 or 7 years I could become a teacher.

To achieve my dream I might have to earn a master's degree. Thus I have to be postgraduate candidates exempt from admission exam for the exam is to hard. I need to gain a good GPA and enter some lab to get ready for research experience and application materials. This is hard for me since I just switched majors to computer science and haven't had any contact with any teachers or classmates.

I haven't received any useful advice from my teachers and seniors yet. In fact, this article and assignment are the most useful advice I have received about the future. For me, my goals are not clear, so maintaining motivation and determination is not an easy task. However, every time I call my parents, I can pick myself up and devote myself to studying.

I think the biggest challenge for me is that I am afraid to learn about information. I have strong learning ability, but this is only limited to having someone guide my learning direction. I really need a teacher to guide my learning direction, but I don't have the courage to contact them. I think I know nothing about cutting-edge subjects and would disturb their work.

I hope to devote myself to AI related research and learn related knowledge. This is my plan for graduate school, but I don't have any idea about which aspect, such as NLP or CV, I can't make a plan yet because I only know how to learn related knowledge, but I have little understanding of how to choose a direction.

Finally, the teacher's article has been very inspiring and encouraging to me, and I am very grateful to you.

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I want to express my comment on this course first. Actually, it is quite difficult to understand all the content in the course. Sometimes I fail to understand a sentence, causing more failure to understand the following. But it is still acceptable as it shares some same knowledge with computer organization. The Chinese explanations between English teaching do help a lot. So after all, I enjoy this lesson, and I do feel at home and quite learn with ease.

For advise, maybe more frequent Chinese explanation may help me understand better.

When it goes to my future, literally, I haven't thought of it deeply. I think I am not ready for work, so I don't want to go to society after graduation. So my answer is obvious, I have no choice but to keep studying. As what is mentioned in homework explanation, I need to go in a laboratory, and I think that will be the professor leading our srtp, something about helping the disabled. I am interested in it so I think this is a good direction.

However, I don't know how to achieve my goal maybe because I am still a sophomore. I just know I should study hard, but know nothing about like summer camp. I think my way is to keep study and wait for my opportunity.

And at last, thank you for inspiring me to think of my way. I do learn a lot from your words.

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Given my current goal and plan, I intend to pursue a graduate degree in computer science or a related field after completing my undergraduate studies, whether through recommendation or entrance exams. However, I don't yet have a specific long-term goal.

To achieve this, I believe the most important thing right now is to maintain or even improve my academic performance. Additionally, I want to participate more in research projects in my advisor's lab. Although I know that it is difficult to produce significant research results during my undergraduate years, I believe the most important aspect is to accumulate research experience and develop my research skills. Furthermore, I would like to broaden my knowledge beyond my major courses, particularly in technical areas related to my field of research, to lay a solid foundation.

I do recognize that I am facing considerable challenges at the moment. The main issue is a lack of time. I'm not the type of person who pushes myself to study day and night relentlessly, and I occasionally want to slack off. However, I've realized that balancing professional courses with research is quite difficult, especially with the various extracurricular activities that school demands. I believe I need to develop my time management skills and improve my study and work efficiency.

As for how to stay motivated, I think it's about not giving myself an escape route. Once I have an escape route, I tend to hesitate. When there's no way out, I push myself forward. It's like when a bunch of deadlines pile up—when the pressure is on, it's hard not to start studying.

I am someone with a narrow social circle and tend to be closed off. I rarely seek advice from others. The most I've done is talk with my advisor about future plans, and his advice was simply to focus on studying, which I believe is sufficient. I think everyone's path is different, and I don't have any specific advice to give. The most important thing is to find the direction that feels the most comfortable for yourself.

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I hope to continue my postgraduate study and participate in scientific research activities after graduation. In te rms of plans, I hope to first follow the SRTP project to get familiar with the scientific research process and gain experience in the scientific research internship in the laboratory. I will start from some small projects and grad ually learn. Although my current direction is not quite the same as the hardware course, your course also arous ed my interest in the field of architecture! I would also like to have a further discussion of anything with you, in cluding course study, scientific researches, or maybe...hobbies?

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At this moment, I stared at the flickering cursor on the screen and suddenly realized how much this moment was like my journey - full of unknowns, but also full of possibilities. The question of 'what to do after graduation' is not only academic, but also personal. It concerns who I am, who I want to be, and what kind of imprint I want to leave.

To be honest, after reading these contents, I feel both uplifted and somewhat anxious. Like many peers, I don't have a clear career plan. The goal of becoming a top engineer/researcher may sound cool, but now I may be struggling to even learn professional courses.

My dream is to create technology that not only solves problems but also warms people's hearts. I want to develop AI systems that can heal, educate, and connect emotions between people - because I have seen how cold machines lacking humanity can be. But dreams alone are far from enough. The road ahead is daunting: graduate school applications, sleepless nights in the laboratory, fear of 'I'm not good enough'... These shadows closely follow every step I take towards my goals.

But in those quiet moments, I remember my original intention. I remember my grandmother who never had the opportunity to read, but guided me with wisdom; I remember when I explained how code could change the world and looked at my cousin with wide eyes. They are my 'why'. When the formula becomes vague and the deadline approaches, their faces push me forward.

I am fortunate. A professor once told me, 'The best way to question oneself is to work harder than it.' Another mentor said, 'Greatness doesn't require anyone's approval.' Their words were like lights in the mist. But I have also experienced failures - rejected papers, messed up interviews, days of self doubt. What supports me to stand up is a simple sentence: * Fall seven times, stand up eight times*

Last week, I debugged the cache experiment until 3am, and when I finally saw an improvement in hit rate, the morning light was shining outside the window. At that moment, I suddenly understood that the so-called life plan may be to slowly see why I am willing to stay up late in countless such moments. I will continue to pursue my dreams - not because it's easy, but because the world needs the changes we can bring. If one day I waver, I will think of my grandmother's rough but always gentle hands from labor, and softly say: * Keep moving forward*

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目前打算是毕业之后回云南当大学老师，一方面非常喜欢昆明的气候和居住环境，当老师的话可以投入自己喜欢的事业，空闲的时候可以去逛逛公园，喂喂海鸥（，另一方面还是想支持一下家乡（虽然可能起不了太多作用），总觉得按照比例来算云南省内的通过高考上一所好大学要比浙江省内困难得多。 目前的计划是参加了学院的本博贯通项目，当然我也还不确定是否能坚持下去。现阶段可能多投入一些时间到科研项目中。 动力来自于对未来的遐想，想象未来在昆明买了一套房，弄了一个电竞间，养了一些猫猫狗狗，然后可以在一个无所事事的午后晒太阳野餐。 建议的话目前还没有，不过浙大计科的日子确实挺难熬的啊

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1. Current Goals

- **Short-Term (Next 1-2 Years)**:
  - Build foundational ML/DL skills: Master PyTorch/TensorFlow and classic algorithms (e.g., CNNs, Transformers).
  - Explore AI subfields: Experiment with computer vision (OpenCV) and reinforcement learning (Gymnasium).
- **Post-Graduation Direction**:
  - Considering roles like ML engineer or research assistant. Still exploring academia vs industry.

2. Expected Challenges

- **Technical**:
  - Debugging model training issues (e.g., vanishing gradients, overfitting).
- **Knowledge Gaps**:
  - Translating textbook theory (e.g., backpropagation math) to code.
  - Keeping up with fast-evolving frameworks (e.g., PyTorch Lightning updates).

3. Staying Motivated

- **Project-Driven**: Build something fun (e.g., AI-generated memes using Stable Diffusion).
- **Progress Tracking**: Maintain a GitHub "AI Diary" to log daily/weekly learnings.

4. Advice from Mentors

- "Focus on *why* a model works, not just *how* to implement it."
- "Read papers with code (e.g., Papers With Code) to bridge theory and practice."

5. Seeking Help

- **From Instructors**:
  - Share curated reading lists for cutting-edge topics (e.g., diffusion models).
- **From Peers**:
  - Form study groups to replicate seminal papers (e.g., AlexNet, GPT-2).
  - Share free compute resources (e.g., Google Colab collaboration tips).

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"What to be after graduation ?" It has been quite a long time since I asked myself the question. To be honest, I have been fearing to ask myself the question.

Nowadays teenagers are forced to face with the absurd in the world too early. Most of us are getting hard to trust or believe in something, being trapped in nihilism and unspeakable pain. Tragedies around keep telling us life is hard.

So I might say that I'll always stick to my own way, walk every step with solid determination. Now I don't show particular interest to any major or direction, all I need to do is to finish my work well. I've taken my time to realize I don't have enough spiritual energy to change on myself or outer environment. What really matters will always be how to keep a subtle balance between mind and outer world, while outer would continously silently changes on us and forces us to make small or big decisions.

Maybe after graduation, I'll become a graduate student and continue on my study. Maybe it's still too early for us to decide on our future life, since it's hard to imagine and there are still several alternatives before graduation.

In the end, I need to show great gratitude to the teacher, Prof. Bu. I believe you're trying to teach us more than strings of 0s and 1s, and you truly do make it. Methodology is always more important than knowledge itself and you keep on telling us how to think. Meanwhile, being a better self is more than academic and working ability, your figure keeps reminding me that a man can both be successful in career and keep his heart, being helpful and enthusiatic, which makes me have more confident and motivation in life.

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For my plans after undergraduate study, I'm currently aiming to pursue graduate school, but I'm not yet sure whether I will go for a master's or a PhD. Based on my current strengths, I think I'm more suited for technical roles. So, continuing my studies to learn more technical knowledge and improve my research ability seems necessary.

What I'm unsure about is whether I'm suitable for research-oriented work – for example, whether I have creative ideas or the flexibility needed to solve real-world problems (or whether I can develop these abilities through learning). Another concern is the time cost of a PhD. Since I'm not considering direct PhD admission after undergrad (as that would take away my chance for self-assessment), I might not finish a PhD until I'm almost 30. I don't know whether being older would become a disadvantage in the job market, even if I have higher degrees and better skills. On the other hand, the jobs available to PhD graduates are often quite different from those for undergraduates or master's students – and may offer higher "irreplaceability."

With all these uncertainties, I cannot say for sure which path is better. But if my ability allows, I currently hope to pursue a PhD. As for whether I'll stay in research or choose to work in industry after graduation, I think I will only be able to make that decision more confidently after going through graduate school.

Based on this plan, my short-term goal is to join a lab in my third year. Given my current GPA, I have a good chance to get recommended for graduate school without the entrance exam, and I've already contacted a lab. Right now, I find it difficult to balance coursework and research – the combined workload is too heavy. But commuting will be easier in my third year, and the academic pressure should be lower, so I plan to focus more on research then.

For guidance, I've been in touch with both my part-time counselor and a senior students in the lab. The counselor told us that even if things don't go well at first, there are still many chances to turn things around later. He also gave useful advice on how to contact labs and explore different research areas. The lab senior mainly advised me on how to manage research without affecting my studies, how to think during research, and how to troubleshoot and solve problems.

If I were to give some suggestions, I'd say it's important to plan your time well. Only with a proper work-rest balance can you avoid

burning out and still handle unexpected challenges. When it comes to research, don’t be afraid to reach out to professors. You don’t need to overthink or feel unworthy. Also, don’t overestimate the difficulty of getting started in research — just take the first step.

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Originally, my primary academic goal was to pursue a PhD in the United States. However, since Trum p won the election, I've found it harder than ever. Besides, I've developed nothing worth writing in my cv so far. Therefore, I may have to pursue graduate studies domestically, most likely through a postgr aduate recommendation at ZJU. Fortunately, my current GPA meets the requirement for recommendat ion, though my advantage is not significant. Additionally, apart from my GPA, I don’t have many other strong points.

During the summer after my freshman year, I had a development internship at a small company, but I don’t want to pursue a career in development. Currently, I’ve joined an AI-related research group, tho ugh there’s little hope of producing meaningful results in the near future.

My short-term plan is to maintain my GPA while striving to publish an AI-related paper, which would im prove my chances for studying abroad or future job opportunities.

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首先看到问题6我很感动卜老师能为我们留下抒发自己想法的空间。我也很想用英文来写下如问题描述之中那样优美的语句，但奈何水平实在有限，请原谅我用中文来作答。

关于我的未来会如何，说实话我并不确定。因为按目前我的成绩来看估计是考研与工作二选一。我很羡慕卜老师这样的教书生活（当然只是从我的视角来看这样的生活很理想），可以继续生活在大学校园里，某种程度上远离社会上的很多琐事。但我也很倾向于本科就业，因为就目前了解到的情况来看就业也不错。我从高年级的学长那里得到了很多经验，他告诉了我对于就业而言，涉及到的最多的是大三会学到的计算机网络等专业课并嘱咐我一定要学好。在考研方面他建议我选择一个好的导师并且分享给了我一些资料。但这些决定最终是由我来做出的，偶尔我会因为想到未来何去何从而倍感压力。

我目前的计划是首先尽己所能去学好专业课，尤其是对就业影响比较大的几门课。此外再尽可能参加一些科研训练，一方面想看一看自己适不适合做研究生，一方面即使就业，也让自己的简历好看一些。可能考研将要从大三开始准备，到时候我会根据自己的学习状态来具体做决定。我并没有很清晰的目标。正如老师所说，“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."，我想我目前最应该做的事是去了解更多信息，来确定自己究竟想在毕业之后之后走哪一条路，找到自己全力以赴的方向。当然现在也要行动起来，因为学好专业课程无论将来怎样选择，都是必需的。这就是我目前对自己将来的打算。

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在未来我想要在计算机科学领域继续一段时间的学习，等到我认为我的能力达到了一定水平，或我认为我的性格或能力不再支持我在科研道路上继续发展时，我应该就会进入一家计算机相关公司进行工作。我希望不管在实验室还是公司工位上，我都能做出一定成果不至于终日受碌碌无为混日子的空虚感所困扰。要做到这点，我认为需要保持对计算机领域的热情，天马行空的想象力，以及足够果断的执行力。我从高中接触信息学竞赛，在大学进入 CS 专业也算是兴趣使然。在未来，我认为保持热忱，保持充实的最好方法就是不断探索，不断涉猎，找到适合自己的领域并在其中加以努力。我会为此继续探索，继续加油。

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半个学期以来的体系课真的给我带来了很多，非常非常感谢卜老师。在上学期的学习过程中，我的状态（精神状态…？）不是很好，总是沉浸在焦虑，着急，但又无法集中注意力，学不会东西，然后更焦虑的恶性循环里。因此，包括计算机组成在内的一些课程都没能顺利学好学完。也随之开始怀疑自己是不是不适合计算机专业等等。但在这学期学体系的过程中，我感到自己的状态好像又慢慢好起来了。比如实验方面，前 4 个实验都是和上学期的组成课挂钩的，我当时又恰好是流水线 CPU 的异常和中断实验，以及缓存的 bonus 实验没有做出来。上学期做流水线实验的时候，我感觉自己好像大脑宕机了一样，PPT 怎么看都看不懂，代码也写不对，在电脑前坐很长时间却一点进展都没有，最后感觉要崩溃了还会去找个没人的地方抹眼泪（现在想起来又有点尴尬哈哈哈哈哈）。但这学期，我又逐渐可以自己理清 PPT 的所有思路，自主完成实验了。感觉已经不再对硬件相关的课程有以前那么重的恐惧感，而且还能在学习的过程中感受设计的精妙从而体会到乐趣，等等。虽然上学期“欠下的债”还没还完，但看着自己的状态慢慢转好也真的让我很高兴，非常感谢老师!!

未来目标的话，其实还不是很明确。不过目前是想要毕业后深造读硕士，这学期联系导师开始科研入门了(❁´◡`❁)希望以后能顺利吧！

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我希望给出一个确定的答案，但是随着自己思考的不断加深，我逐渐发现一个确定的未来是不存在的。

在今年trump上台前我已经进行了半年的思想斗争：究竟是保研还是出国申博，我将未来的选择分为两个分支，共四个选择：国内外、博士硕士。

我觉得短短几句话很难说清楚我最后的考量标准，但是我最终的决定是进行出国申请直博。一个很艰难的决定，更令人觉得艰难的是trump上台后面临的紧张局势和带来的不安，我认为申请和保研是没有办法进行兼顾的，或者说 没有谁是谁的保底，由于时间线的问题，在与学校老板确定名额时尚未暑研，出国的可能性还是完全未知态的时候就要进行选择……虽然说现在还未到做决定的时候，但是最令人担心的莫过于放弃了保研同时全面禁止申请北美cs博士。。。

好吧，抛开这些糟心事不提了，说说我的目标和规划吧。

目前我在侯廷军老师的组里，方向是ai4science（分子生成）如果申请的话大概率也是类似的，生成式人工智能这类，选择这个最开始的原因是觉得学校做cv的人太多（）（），然后觉得交叉更符合我的胃口哈哈哈，过程中还有想转cv的想法，hou lai bei fo后来被否决了 毕竟cv的申请简直是地狱。。。

近期的目标就是在暑假前和学长把这个项目做完，主要是关于分子生成方法的一个benchmark，有点偏science，但是可以给我多一点时间对这个领域进行初步的了解，对16种模型（GNN Diffsion AR based）进行了解和学习。

下一段科研我想在外校做，我的理解是申请，尤其是北美的申请，connection is all my need 现在的老板虽然很吊人也很好但是好像conn不多，我也希望能找到一段北美的ra暑假或者大三上做一下，也为明年的暑研做准备，但是好难找，本来找到一个stf的学姐正好方向很match，但是ta lao他老板的funding都是敏感。后来说不敢带我了。真的好崩溃。。。（我不会放弃继续找的。。。

唉 感觉变成吐槽了。还是希望和卜老师见面聊聊这些事，我知道卜老师也是选择在海外读博的

如果说我从学长口中得到了什么有用的建议的话，那就是尽早找外校的科研做起来？浙大尤其是图灵班的出国情况好像不太乐观（）

反正早规划没啥坏处哈哈哈

没有谈那些很宏大的梦想啥的，那些是我在做选择时会考量的东西，主要是现在的思绪很乱，有些迷茫不安，当然会安慰自己那些外在的东西与自己无关，我们能做好的只有分内的事，但是压力毕竟还是无处不在，唉 不说了

奋斗

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Short-term plan:
During my undergraduate studies, I aim to secure a postgraduate recommendation (保研) and then pursue a master's degree. Looking further ahead, I want to find a job I genuinely enjoy—one that brings fulfillment while maintaining a comfortable standard of living.

How to achieve this?
I'll start by making the most of my undergraduate years. Beyond academics, I plan to learn a foreign language in my spare time, engage in scientific research training, or cultivate hobbies. While GPA is crucial for postgraduate admission, life also offers countless opportunities to explore new interests. I'll strive to balance academic rigor with personal growth, ensuring these years are both productive and meaningful.

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Just as stated in the question 06, I don't have clear decision, so doing both is necessary for me. Maybe I have a few ideas such as going abroad for a PhD after my undergraduate degree or staying at home for graduate, or even worse, going straight to employment. All of these choices will be made after I have given them as full consideration as possible. For example, I will actively participate in research to see if I have enough research potential, and at the same time, I will continue to learn practical skills in computer science to prepare myself for my next career.
So what I want to say is "Doing good deeds but don't ask about your future".

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Dear Mr. Bu Kai

I don't know where to begin in explaining my goals ahead and everything. Should I start from my first time being here in China or from my current striving for my future career? A lot has happened since I first arrived here. Hmm, okay, I think I know where to start. First of all, I've never had a teacher who asked their students about their passions, feelings, goals, or anything. Usually, it's just a teacher who comes and goes through each class. I wanted to thank you for this opportunity to actually express my inner feelings and future career goals. Okay, I'm going to start from my first time arriving here in China as part of my background.

Well, you see, I'm not from China. My grandfather is from China, but we don't communicate using Chinese (we communicate in my home country's language). I learned Chinese by myself by joining courses, etc. My country's educational background is so far back comparing to China's education. I had never been to China before. This is literally my first time here. At first, I didn't know that my path would be really challenging, and all I had in my mind was only, "This is going to be fun. I'll explore China and make new friends," not knowing that I was about to face many tough challenges in the beginning (I'm talking about adaptation). After the first semester passed, I was actually stressed a lot since my Mandarin skills were only based on real-life conversation, not on more specific topics like computers. I had to adapt quickly that semester, wasting a lot of time from morning until night studying and translating 😳. Luckily, I passed all my courses in the first semester, but the second semester? No, I realized that my basic mathematical foundation was not as strong as the Chinese students. This is where I started to learn more quickly and spent more time studying more. (Quick note: up until now, every time I talk to a native Chinese speaker, I only understand 50% of the conversation 😳).

After the second semester passed (I had multiple failures since my time and energy management still had flaws, and also my mathematical foundation wasn't strong enough), this is where I started to find my interest, which is cybersecurity in web applications, especially since I joined the short semester class with Team AAA and nailed the class with high grades. This was the first time I finally saw the light upon arriving and learning here. Course by course, I joined, and then I finally met the computer organization class. Although this is not my passion field, I still learned a lot in this class, learning about the inner workings of a CPU, cache, how they work, how they are operated and optimized. This is also where I learned assembly language, which is very useful in the cybersecurity field.

Long story short, by my 4th semester, it was time for me to pick a teacher for my computer architecture class. I saw your name, and beside it, it said (全外文). At first, I automatically clicked it. All I had in my mind was, "Okay, finally some class that will ease my pain since every class I take is Chinese-based teaching (I usually learn only from PPTs, since I can't really understand what the teacher said in class)." The first time I saw your teaching, it really blew my mind because, as a "feeling"-based person, I can see a person's heart and motivation in doing something they like. The first time I saw you speak, I could tell you cared deeply (especially the smile you gave your students, it was heartwarming 😁). I can sense that Mr. Bu Kai is really passionate about teaching and really cares about the performance of each student. Out of all the teachers here, you really stand out the most to me. Especially since you are also passionate about Network Security, a topic in which I have also been planning to deepen my understanding. I learned a lot in this class, and I now know the importance of optimizing hardware problems. In addition, each instruction needs to be carefully processed. Exceptions and interrupts for all possible cases that might appear need to be anticipated and handled; otherwise, an error or fault will occur. This deepened my understanding a lot. You also asked a lot of critical thinking questions in class, which made me wonder and think outside the box, although sometimes you tend to ask in Mandarin, which I can't really understand 😳. It's okay, this actually challenges me to engage more in my Mandarin skills.

This course is already enjoyable for me. Perhaps, as an international student, I should speak more English hahaha 😁.

Okay, let's talk about my goals and future path. I've been planning a lot for my future career since the first semester here. Since I'm interested in network security, I will be learning and deepening my understanding of networks for some time ahead, while scanning for any internship opportunities for the summer holiday (I'm searching through the BOSS application for a penetration tester role in the WEB category). As of right now, my understanding lies only in web-based penetration testing, but I'm very curious about network security and cloud services security. I recently heard about an internship for my country's 2026 graduates from Tencent, a company that's about to open its first base in my country (I will be a 2027 graduate, hopefully 😳). I would like to ask a lot of questions like, "Where do I start? How do I actually get a better grip on this path?" to you, who has specialized in network security for a long time. But, well, you know, right now is not really a good time since my semester is kind of stacked (due to my semester 2 failures), so I need to focus on my studies and all my classes first. I will be asking about networks during my holiday, since that's the only time I might have some free time to expand my understanding of what I'm passionate about.

In the future, I've also been thinking about starting my own business, where I would develop my own network security solutions in my home country. This is also my primary reason for studying abroad, mainly in China, since China's network security must be well-developed. Perhaps after graduating, I'm hoping to spend some time working in China or Singapore, understanding the network/cloud security structure of a company. My primary target right now is to graduate from here and make my parents proud 😁.

Also, some of my friends from my home country tend to ask why I avoid them in some ways. I never actually answer that question. Well, you see, my goal here is to survive and learn a lot, not only about the technologies but also about the culture and language. That's why I braved myself to join an acapella group, where all the members are Chinese people. I passed the interview despite my lack of language skills and made a bunch of new friends. This actually improved my Mandarin skills a lot. I also made friends with some of my classmates (also Chinese friends), and in the end, I was the one teaching them in the computer organization class. But we hung out quite a lot, played bowling, ate together sometimes 😳. That's just how I want to enjoy my time here, besides studying 24/7 😳😳. Well, I think I'm not going to write this down after scrolling all the way up and realizing that I've already written 6 paragraphs with just my bare hands and heart. I hope you're interested in mentoring me to get a better understanding of network structure (I'm currently learning the basic 7 layers of OSINT). I'm looking forward to any chance to develop my passion with you, Mr. Bu Kai.

Yours sincerely

(After reading the above passage, I'm pretty sure, you probably already know which student I am 😁)

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Talking about goals and thought after graduation is actually kinda hard for me right now, it's not like I myself doesn't have any goals, but at the moment I guess I am still finding my goals especially like what am I gonna do or what job will I take after I graduate. Well as an International student, studying computer science is pretty challenging for me, at first, I never thought that this would pressure me a lot, but after several semester of studying, I can't say that I am not pressured, since the intensity of the course is pretty hard for me.

Well as an International student, there are not much people or student that are taking the computer science major so its actually kinda hard to get some seniors to help me, but as the time goes on, I have met some local student which are somehow helpful to me, aside from that now I 've been taking some tutoring classes to help me understand this lesson.

To be honest, I sometime do get scared and hopeless, because for me a lot of the lesson are hard to pass. And even in these several semesters. I've been getting the warning from the school. Sometimes I've just had no words to say. Its just not because I don't study, I study like crazy every day, trying to keep up with the lesson, doing a hell lot of homework's but sometimes, it's just not helping.

For this "Computer Architecture" lessons especially, I always listen to the lesson at class, but sometimes I just can't understand directly, I need some time to review it slowly and because of that sometimes when I was asked in the class, it was not that I don't understand at all but I am just can't answer it directly,

I would appreciate any feedback you could provide on my reflections above. As I've shared, I'm still finding my way through the challenges of studying computer science as an international student. Any guidance or advice you could offer regarding managing the course workload, developing effective study methods specifically for computer architecture concepts, or suggestions for clarifying my future goals would be extremely valuable to me. I would prefer a discussion appointment, if possible, as I believe a conversation might help me express my concerns more clearly and allow me to ask follow-up questions based on your advice. Thank you for creating this opportunity for students to share their personal journeys and challenges.