I love teaching and deeply enjoy every part of it, from designing lectures to interacting with students. My favorite moments are when a student's understanding clicks after a struggle—seeing that light bulb go on, up close and personal, truly thrills me.

Teaching Philosophy

My teaching philosophy centers on systems thinking and active exploration. I aim to help students not only know how systems or programs work but also reason about why they behave as they do. From my teaching and mentoring experiences, I have found that students learn best and fast when they can connect abstract concepts to real systems and test their understanding through concrete, hands-on tasks. As generative AI makes access to information faster and easier than ever, but not always reliable, this philosophy becomes even more important. By reasoning through real systems, students can deepen their understanding, and learn to question and correct what technology provides. **Technology should be used to enhance education, not to cheapen it and replace the learning that happens through experience.**

Teaching Experience

I am passionate about teaching at all levels. At UIUC, I have served as a teaching assistant (TA) for one graduate-level and two undergraduate-level courses: (1) *AI Efficiency: Systems & Algorithms course* (CS 598), where I helped students understand the mechanisms and optimization behind the training and inference of language models; (2) *System Programming* course (CS 241), in which I led recitation sessions to help students learn C programming and debugging, and also answered questions in their assignments; (3) *Data Science Discovery* (CS/STAT 107), where I gave keynotes and provided hands-on support for students' lab and homework. Next semester, I will serve as the teaching assistant for *Advanced Operating Systems* (CS523) course.

Across these courses, I have seen students grow far beyond technical materials. For instance, in CS 241, many students began the semester intimidated by C programming; by the end, they were debugging programs independently. It is deeply rewarding to watch them gain confidence and curiosity through practice. I have also witnessed firsthand how teaching interactions can shape students' academic paths. During CS/STAT 107, Jackson Clark, an undergraduate student, was my course assistant to help me in my lab session. Through our discussions about research and career development, I encouraged him to explore research in system reliability. Later, he joined my research group as a Ph.D. student. This experience strongly reaffirmed my belief that **good teaching extends much beyond coursework** and can help students discover their long-term passions.

Beyond official TA, I actively contribute to curriculum and research-based education. My work on AIOpsLab [1], which is an automated evaluation framework for AI agents in cloud operations, has been featured in tutorial sessions at top international venues like SOSP, DSN, and FSE. It has been integrated into two graduate courses at UIUC and one course at the Indian Institute of Science. I was also invited to give a guest lecture at UIUC to introduce students to real-world challenges in autonomous cloud operation.

I was selected for the *Mavis Future Faculty Fellows Program* at UIUC, a competitive professional development award that recognizes promising PhD students preparing for academic careers. Through the program, I have attended teaching seminars and received valuable feedback from faculty across disciplines, which helped me refine my pedagogy and communication skills.

Before joining UIUC, I also served as a teaching assistant for a Computer Graphics course at the National University of Singapore's summer school for two consecutive years (2018 and 2019), where I helped students learn 3D rendering and animation techniques. Outside academia, I also enjoy teaching: I served as the coach of my department basketball team during my undergraduate years and often teach tennis recreationally. I believe **a good teacher should be able to inspire**

learning in any setting.

Mentoring Experience

I have mentored three junior PhD students, three master's students, and two undergraduate students in different research projects. My mentoring focuses more on helping students become mature and independent researchers through *experiential learning* [2]: Students learn by doing, and I closely work with students and provide feedback timely. To help students get started in research and build their confidence, I encourage students to begin by making small, concrete contributions to a project. I implement this approach by being hands-on and carefully designing concrete onboarding tasks when starting to work with a student. When designing onboarding tasks, I ensure that solving each task does not require too much background knowledge, and each task is incrementally harder than the previous ones, so students need to constantly innovate new solutions. To help students become independent researchers, I will be gradually hands-off and encourage students to take leadership by thinking independently and exploring their own ideas after they have accumulated enough experience and progress in the project.

My mentees have achieved remarkable progress. For example, Jackson and Yiming, who are PhD students now, co-authored a paper on AI-driven system reliability with me. My master's mentee Huaibing contributed to integrating RCACopilot into Microsoft's production system; and Anna published a first-author paper in the top venue, and goes to the Cornell to pursue her PhD. Among undergraduates, Jiaqi co-authored a paper with me, published at NeurIPS, and helped me implement the AI agent and open-source the code.

Teaching Interests

My research aims to build reliable, intelligent, and secure systems. Given my background, I can teach both undergraduate and graduate courses, such as **distributed systems, machine learning systems, operating systems, software testing,** and **system security**.

I also plan to merge my research into my teaching. I am excited to incorporate agentic system operation into the curriculum. For example, based on my previous research, including AIOpsLab and ITBench, I plan to develop course projects to teach students how to inject faults into cloud systems and create problems for agents. The projects will also teach students how to build and augment AI agents to achieve better effectiveness and efficiency of system operations.

Student Comments

I deeply value student feedback as it helps me reflect on and improve my teaching. Below are a few selective comments from my teaching evaluations:

1. *"Very good at explaining questions, always helpful and attentive to students."*
2. *"He was a really good TA and always helped me whenever I had questions on the code. The course was also really well-organized and it was really easy for me to follow along and my TA was super helpful and never made me feel dumb whenever I asked him questions, and he was always super nice and friendly."*
3. *"The main strength of the course is that it allows me to apply what we learned in lecture into actual coding. I was able to understand the material more when I did it myself than when I'm watching in lecture. The main strength of my TA was that he was really knowledgeable on the coding aspect of the labs."*
4. *"Nothing (to improve)! The course is really well-run and I really liked this class."*

References

[1] **Yinfang Chen**, Manish Shetty, Gagan Somashekar, Minghua Ma, Yogesh Simmhan, Jonathan Mace, Chetan Bansal, Rujia Wang, and Saravan Rajmohan. "AIOpsLab: A Holistic Framework to Evaluate AI Agents for Enabling Autonomous Clouds". In: *Proceedings of the Eighth Annual Conference on Machine Learning and Systems (MLSys'25)*. May 2025.

[2] David A Kolb. *Experiential learning: Experience as the source of learning and development*. FT press, 2014.