

Teaching, for me, is both a deeply personal and profoundly communal pursuit. As a researcher focused on human-centric AI, I view teaching as a natural extension of my values: *nurturing curiosity, supporting diversity in thinking, and enabling every student to grow into a confident, critical problem-solver*. I believe teaching is not merely about transmitting knowledge, but about empowering students to engage actively with complex ideas and to take ownership of their intellectual development. My teaching approach is built on three pillars: building relevance, fostering inclusivity and mentorship, and connecting theory to impactful real-world applications.

## Teaching Experience and Philosophy

**Teaching Experience.** I have accumulated diverse teaching experience across both undergraduate and graduate levels, serving as a teaching assistant for *COMP 202: Foundations of Programming*, *COMP 303: Software Design*, *CCOMP 535: Computer Networks*, and *CCOMP 597: Applications of Machine Learning in Real-World Systems*. Among these, my most formative and impactful experience was serving as the **Head Teaching Assistant** for *COMP 597* at McGill University in Spring 2021 and Winter 2022. This graduate-level course focuses on applying ML algorithms to domains such as recommendation systems, LLMs, smart grids, communication networks, and healthcare. The course combines lectures, student-led presentations, and hands-on projects, encouraging critical engagement with cutting-edge topics.

In this role, I took on both instructional and pedagogical responsibilities, including but not limited to (i) *Led weekly discussion sections* to reinforce core ideas and connect theory to practical challenges, (ii) *Mentored student projects*, providing structured guidance on framing research questions, exploring datasets, and iterating on prototypes; (iii) *Co-developed course content* on LLMs and generative models, integrating current research and industry examples to enhance the curriculum, and (iv) *Introduced an optional ethics discussion module*, where students explored issues of algorithmic bias, model interpretability, and deployment risk in ML systems. These activities enabled me to create a dynamic classroom environment that empowered students to apply machine learning (ML) methods with both technical depth and critical awareness. One student shared in course feedback: “*Haolun was nice and gave constructive guidance that helped me connect theoretical concepts with practical insight.*” Another highlighted that the discussions helped them “*understand how machine learning could go wrong in real-world deployment and how to think carefully about solutions.*” These responses affirmed the value of integrating real-world relevance and reflective thinking in technical education.

**Teaching Philosophy.** My teaching philosophy is rooted in the belief that **effective instruction should be engaging, inclusive, and empowering**. I view the classroom as a shared space where diverse voices contribute to deeper collective understanding. Specifically, I aim to:

- **Bridge theory with practice:** I emphasize the connections between formal ML foundations and their manifestation in real-world systems—encouraging students to see machine learning not as abstract math, but as a tool that interacts with people, platforms, and policies.
- **Encourage exploratory and independent thinking:** I integrate open-ended assignments and project-based assessments to support intellectual autonomy. I give students the space to define their own problem settings, encouraging them to take risks and pursue curiosity.
- **Foster peer learning and community:** I promote collaborative learning through structured peer feedback, group presentations, and in-class discussions. These foster communication skills, build confidence, and allow students to engage with diverse perspectives on a shared problem.
- **Adapt to students' backgrounds and goals:** With students coming from varied disciplines (CS, engineering, math, health sciences), I strive to make content accessible without oversimplifying. I use intuitive examples and provide multiple entry points to technical concepts.

Overall, I see teaching as an act of both **intellectual mentorship and social responsibility**. My goal is not just to help students succeed in a course—but to give them tools and frameworks to succeed as thoughtful contributors to the AI community and beyond.

## Mentoring Experience and Impact

**Mentoring experience.** Beyond formal classroom settings, I have mentored 5 graduate students and 3 undergraduate students from *McGill University*, *University of Toronto*, and *City University of Hong Kong* in research projects spanning machine learning, natural language processing, and recommender systems. I view mentorship not just as supervision, but as a collaborative partnership that evolves over time—from offering hands-on guidance in project setup to fostering independent thinking and research ownership. My mentoring typically spans the **full research cycle**, including *ideation, experiment design, coding and debugging, and iterative paper writing*. These mentoring efforts have led to multiple top-tier research publications, including an **oral** presentation at *EMNLP 2024*, one paper accepted to *The Web Conference 2025*, and one paper accepted to *ECML PKDD 2025*. I also supported one undergraduate mentee in successfully applying to a competitive Master of Science in Applied Computing (MScAC) program at the *University of Toronto*. Whether mentoring students on short-term research projects or long-term collaborations, I aim to provide both **technical support** and **personal growth guidance**, helping students navigate not only research challenges but also broader decisions related to their career goals and personal growth.

**Mentoring Philosophy.** My mentoring philosophy centers on fostering **independence, intellectual curiosity, and long-term confidence**. I view mentorship as more than supervision—it is a **sustained, supportive relationship** that helps students become self-directed and reflective researchers. I prioritize **ownership** early on, encouraging students to define research questions, select datasets, and make design choices themselves. I emphasize **critical thinking** and **constructive feedback**, guiding students to assess their assumptions, interpret results thoughtfully, and weigh trade-offs. I maintain open and honest communication, creating a space where students feel safe to share challenges and explore ideas. I also offer **life and career guidance**, helping students navigate decisions beyond research—whether pursuing publication, graduate study, or industry paths. By sharing my own setbacks and lessons learned, I normalize the nonlinear nature of research and promote a **growth mindset**. Overall, I aim to meet students where they are and help them grow into confident, independent thinkers.

## Teaching Goals and Future Plans

In the future, I hope to teach both fundamental and specialized courses. I am prepared to teach undergraduate and graduate classes in *machine learning* and *natural language processing*. The related areas include but not limited to *Information Retrieval*, *Data Mining*, *Deep Learning*, *Large Language Models*, *Fairness and Responsible AI*, etc. I am especially excited to propose a new graduate seminar on *Machine Learning from Human Preference*. This course would explore personalization, responsibility, alignment with human values, and feedback learning in real-world AI systems, drawing connections between technical methods and societal impact. Through case studies, model critique, and hands-on projects, students would gain both analytical tools and ethical frameworks to reason about large-scale real-world AI deployment.

Ultimately, I aspire to cultivate a learning environment where students not only understand machine learning algorithms but also develop the critical thinking needed to use them responsibly. Whether through teaching or mentorship, I find joy in helping others see the beauty and power of ideas—and in guiding them to contribute thoughtfully to the AI community.