Teaching Statement

Manling Li

I have been very fortunate to work with many passionate, critically-thinking and hard-working students. Teaching and mentoring have been fulfilling experiences for me for being able to positively influence my students' academic and professional development. My goal as an instructor or a mentor is to make a difference by igniting students' passions and dispelling negative stereotypes. It is the most pleasant thing to see students have their first paper appear in a peer-reviewed conference. My academic background, teaching, mentoring and management skills serve me well in a teaching role:

- I have been invited to do **guest lectures** by multiple universities for their Natural Language Processing (NLP) classes, including University of Illinois Urbana-Champaign, Virginia Tech, and North Carolina State University.
- I also served as a **teaching assistant** for a graduate class on *Knowledge-Driven Natural Language Generation*, including being guest lecturers, designing assignments, scoring, and hosting office hour.
- Our **tutorials** have attracted around 200 conference members at ACL 2021 and AAAI 2021, and more than 100 in-person attendees at NAACL 2022.
- I led a team of 19 students to participate in the SM KBP evaluation, ranking first.
- I joined **ACM Mentor Program** at UIUC as a mentor, and served as a **CS Ambassodor** for UIUC CS Visit Day and an **Advising Assistant** at UIUC PhD Orientation Seminar.
- I have **mentored 12 students** for research during my Ph.D. study. The students I mentored published 10 co-authored papers with me and 6 students published their first NLP papers with me. All of my advisees have continued on to pursue graduate school or STEM careers, and 3 of them are currently pursuing Ph.D. degrees.
- I have been systematically trained by Mavis Future Faculty Fellow Program to hone and improve my teaching and mentoring skills.

Mentoring Experience

One of the aspects of the faculty job that I am most excited about is the privilege of advising and mentoring students. In my Ph.D. study at UIUC, I have been **leading the DARPA AIDA TA1 team of 19 students at UIUC from 2018 to 2022** (end of the program) and led DARPA KAIROS TA1 team at UIUC in 2020. The team achieved top performance at these DARPA evaluations every year. Also, I have been **helping manage the group members since 2020**, including organizing various meetings, organizing research activities, hosting visiting scholars and post-docs, managing group webpage, etc.

I **organized the summer internship camp of our group in 2022**, including interviewing 30+ undergraduates from four different countries, giving offers to 9 of them, recruiting 7 PhD as mentors, and coordinating the matching of mentors to undergraduates, as well as managing research topic selection. In order to keep abreast of the progress of each undergraduate and their mentor, I organized a two-hour group meeting each week. To prepare my undergraduate advisees for their research career, I provided them with training from idea generation to completing a paper, including literature review, baseline implementation, experiment optimization, paper writing, and finally rebuttal skills. **The summer internship program was extremely fruitful**, with **four papers being submitted to high-profile venues** including AAAI, ICLR, and ACL, and **four more students choose to continue to work with me during the fall semester**.

During my PhD study, I have **mentored 12 students**, including freshman, sophomores, juniors, seniors, master students, and first-year PhD students, whose majors span computer science, electrical engineering, and civil engineering. **Six students have published their first NLP papers with me,** at top venues in the

fields of NLP, CV and ML, such as ACL, EMNLP, NAACL, AAAI, and NeurIPS.

I actively help with their graduate school applications by scheduling individual meetings with them, and offered to help revise their application materials, optimize their personal websites, and mock interviews. **All of my advisees have continued on to pursue graduate school or STEM careers**, and **three of them are currently pursuing Ph.D. degrees**. One of them has switched his major from Civil Engineering to Computer Science successfully and plans to pursue a CS Ph.D. degree.

Teaching Experience

I received teaching skill training through the **Mavis Future Faculty Fellow program**. With the assistance of the training program, I was able to systematically learn teaching theories and hone my teaching abilities. I further practiced my teaching skills by giving **guest lectures**. I have lectured Multimedia Encoding via Vision-Language Pretraining in CS 546 Advanced Topics in Natural Language Processing. It is one of the most popular classes at UIUC with around 100 students. There were students who have already published papers on the topic that I intend to teach, while some students are unfamiliar with natural language processing or computer vision. As a result, I did the lecture at a pace appropriate for those who have taken only the prerequisites. It was challenging for this population, yet fully achievable if sufficient effort is made. It has been highly praised by both the primary lecturer and the students for its clarity. As a result of the interest my lecture has generated, two students approached me offline for further research.

I am also a **teaching assistant** in CS 598 Knowledge-driven Natural Language Generation, including hosting office hours, scoring, designing course project, such as *Event-aware News Image Captioning*. I encouraged academic risk-taking during the design of the course project since I believe it is a valuable experience to work through an incomplete solution. My goal is to foster a learning environment in which students feel that their contribution and improvement are valued rather than their correctness.

Teaching Philosophy. The most important philosophy that I believe is that every student, teacher, and thinker in the classroom contributes to the learning process, which happens both ways as I learn from the students as well as their learning from me. This philosophy is emphasized in my classes through the inclusion of regular student feedback. Student feedback has been extremely insightful when I helped with course project design of CS , providing useful insights on what is working in class, as well as where I can improve. Furthermore, I believe that it is more important to teach students how to learn on their own. In appropriate classes, I will include an exercise in which students are guided step-by-step through finding information, reading about it, and then applying new skills.

Teaching Interests

With these experiences, I am well prepared to teach in academia. The courses I can teach include natural language processing, computer vision, machine learning, artificial intelligence, statistics, and related topics for undergraduate and graduate levels, as well as fundamental core courses in programming, data structures, algorithms, etc.

Furthermore, I am interested in developing a course on **multimedia knowledge extraction and reasoning** based on my research area, which would present a broad overview of state-of-the-art multimedia knowledge acquisition techniques and its support to real-world applications. It can also be a selective seminar course on **vision-language understanding**. As an educator, I am committed to assist students in growing and enhancing their skills to attain their own goals in the future.