

Alane Suhr: Teaching Statement

I am eager to teach and mentor students in NLP, AI, ML, and computing more broadly. Teaching and mentoring is a long standing interest of mine, which I brought into practice on multiple occasions.

1 Experience

I took on instruction and mentoring roles throughout my college years. In my first two years at Ohio State, I was a co-instructor of an iOS development group for undergraduates. In the last two, I was a co-organizer of a STEM and robotics club at a local public high school. Both roles gave me experience working long-term with small groups of students, especially in creating a balance between teaching through demonstration and letting students learn by trying things on their own. Through tutoring in college and holding office hours as a TA, I gained experience with working one-on-one with students in a class setting. As a TA at Cornell, I refined my skills in designing fair and precise assessments, e.g., rubrics.

I co-organized conference tutorials on neural semantic parsing¹ (ACL 2018) and crowdsourcing² (EMNLP 2021). I co-designed the crowdsourcing tutorial around case studies of existing data collection projects, with the goal of relaying diverse crowdsourcing expertise, while overcoming the open problem of formalizing a practical theory around crowdsourcing. The tutorial was hybrid, with all videos released online before the conference. Day-of, we used the tutorial time to hold a drop-in office-hour, where attendees stopped by to ask questions and start discussions about crowdsourcing methodology. Besides the tutorials, I prepared guest lectures for courses at the University of Pittsburgh and Cornell Tech. Preparing tutorials and guest lectures taught me about designing engaging and informative lectures that take into account the audience's background. I also gained experience with multiple teaching methods, including both traditional lecture and flipped classroom approaches.

I have extensive experience mentoring students on research projects. To date, I have worked with nine undergraduate and three master's students from a variety of educational backgrounds. For example, I have mentored undergraduates outside of computer science, including in psychology, economics, and statistics. All of my past mentoring relationships have resulted in publications, and, in some cases, led students to pursue graduate studies in computer science. I have worked with undergraduate students outside of Cornell, including from CUNY, Technion, and Columbia University. I deeply appreciate the range of perspectives this brings to academia and research. As a professor, I am looking forward to supporting multidisciplinary research by teaching and advising students with different educational backgrounds.

2 Approach to Teaching

Abstract and Concrete Learning In my own experiences learning and teaching, I have found that many students learn best through hands-on experience as a supplement to traditional lecture-based course structures. Teaching through theory and abstraction is important for conveying why a particular method works, but does not necessarily teach students about how to get it to work in practice. In class, I will demonstrate working examples of methods (e.g., reinforcement learning techniques), and design projects that walk students through implementing and experimenting with these methods on their own.

Interactive Engagement with Students I believe it is important to engage students with interactive, multi-

¹<https://github.com/allenai/acl2018-semantic-parsing-tutorial>

²<https://nlp-crowdsourcing.github.io/>

modal learning. In addition to traditional lectures, I plan to incorporate in-classroom activities, such as the Role-Playing Paper-Reading Seminar³. I plan to design course projects that give students experience with a wide variety of methods in computing.

Teaching Ethics and Broader Impacts It is crucial to teach students to think seriously about the ethical implications of the technology they design. I plan to incorporate discussions of ethics into each course module, including reflection on existing and future technologies. To do this, I will look to programs like Harvard’s Embedded EthiCS.⁴

Personalized and Flexible Curricula The students in my courses will have diverse backgrounds, interests, and goals. While my primary objective in teaching is that all students thoroughly understand the fundamentals, I will look to my students’ curiosity to guide auxiliary modules. For example, if many students in an NLP course have an interest in a particular application of NLP, e.g., to social media, I will prepare lectures and activities around this topic.

3 Approach to Mentorship

Guiding Research Trajectories The students I work with will have different levels of focus in their research interests. Some students will join a PhD program with a very clear idea of their longer-term research goals. I am open to working with and learning from students whose interests fall outside of what I have had direct research experience with in NLP and ML. Others have a strong motivation and interest in doing research, but less well-defined idea of exactly what topics to pursue. I will help guide these students to define their research trajectory.

Advising Style Each student has their own needs when it comes to advising style. Some students prefer to work more independently, while others benefit from a close working relationship. I plan to be receptive to each student’s needs in this respect. In addition, I understand both the joys and frustrations of the research process. I will be dedicated to supporting my students through the process by talking them through research roadblocks.

Encouraging Collaboration Within and Across Groups In my lab, I will encourage healthy group dynamics through regular lab meetings and within-group collaborations on research projects. Consistent with their specific research goals, I will also help my students form collaborative relationships with labs and departments outside of my own. Being an organizer of the ViGIL workshop⁵ for two years gave me experience connecting with researchers in a variety of fields, including in neuroscience, psycholinguistics, child development, and cognitive science.

4 Teaching Plans

I am interested in teaching undergraduate-level courses in NLP, ML, and AI, as well as introductory courses in computer science. I would also enjoy leading graduate-level courses and seminars in NLP, especially on topics related to my research, including multimodal and interactive NLP. I am particularly excited about developing a course that focuses on computational models of language in interaction, tying together theories and methods from linguistics, cognitive science, and computer science.

³Jacobson and Raffel, 2021. <https://colinraffel.com/blog/role-playing-seminar.html>

⁴<https://embeddedethics.seas.harvard.edu/>

⁵Visually Grounded Interaction and Language, <https://vigilworkshop.github.io/>