Teaching statement

I have experience developing curriculum and teaching to varied audiences across many topics: introductory Python to undergraduates; environmental biology to high school students; and bioethics to graduate students.

Most recently, I was the instructor of record for a course titled *Introduction to Genetics, Ethics, and Society*, for which I received the Stanford Student Award for Excellence in Teaching. Using skills I learned from a six-week pedagogy intensive, I developed the curriculum, led a team of eight teaching assistants, and taught 40+ graduate students over two years. Our course combined instructor-led lectures with student-led conversations where they analyzed case studies and role-played scenarios, allowing students to productively discuss topics at the intersection of genetics and society. To assess the impact of our course and identify areas for growth, I collected and analyzed pre- and post-course survey data, publishing our research in *Cell Genomics*. Moving forward, I plan to continue incorporating active learning strategies into my teaching, as they are highly effective at engaging students and enabling thoughtful discussions on complex topics.

My commitment to evidence-based pedagogy stems from my first teaching experience as an undergraduate teaching assistant for an introductory Python course that enrolled 1,200 students. I was lucky to work under professors who used education research to navigate the challenges of teaching large lecture-based courses—this permanently shaped my own approach to teaching. I later applied these skills as the primary instructor for a 5-day Python workshop during my PhD. In both settings, I witnessed how new students can feel intimidated by the specific logic and language of programming. To encourage students to feel comfortable making mistakes and troubleshooting the outcome, I often used live-coding examples that demonstrated how to think through bugs I encountered in my code snippets.

During graduate school, I also co-led a summer academic program for high school students in collaboration with the Monterey County Migrant Education Program. I developed and taught a two-week curriculum on environmental science and bioengineering, and also coordinated student-led community engagement activities. The Migrant Education Program serves a particularly under-resourced community: the children of migrant workers. To foster a supportive learning environment, we invited students to share about their identities and cultural backgrounds, and tailored the curriculum to include examples about environmental justice and indigenous land stewardship practices. We also structured the course to accommodate students' specific learning needs: for example, several students did not have access to a stable WiFi connection, requiring us to re-imagine activities that depended on the Internet. By the end of the program, several students shared that science felt more accessible to them, and one student even asked me for a letter of recommendation for a summer research program. This experience deeply influenced how I design inclusive classrooms, ensuring that diverse backgrounds and learning needs are integrated into my teaching approach.

Drawing from these experiences, my teaching philosophy is grounded in three principles: fostering inclusive classrooms, incorporating evidence-based pedagogy, and making

computational coursework approachable for all students. I am prepared to teach courses across a variety of subjects, such as biostatistics, linear models for biology, bioinformatics data analysis, and science and society. I am likewise equipped to develop courses for students ranging from non-major undergraduates to graduate students. For example, I could teach a *Data Science and Society* seminar for first-year students, but I could also teach a more targeted upper-division course that incorporates quantitative methodologies to analyze the societal impacts of data science. I am especially keen to de-mystify quantitative analyses for students without prior experience and integrate an awareness of the societal implications of research.