Pavel Panchekha **Teaching Statement**

I look forward to the mentorship and teaching involved in a faculty position. I have been mentoring and teaching throughout my career, from teaching AP Physics to high school students while an undergraduate to expanding the PhD mentoring program in graduate school. Below I describe three pillars of my approach to teaching: teaching skills through applications, academic mentorship, and expanding participation.

I believe students learn core concepts best when the instructor demonstrates how those concepts apply to real-world problems. I followed this principle when I was TA for a Professional Masters course on programming languages. This class was taught in the evening to students who already work in industry and who want to see how to apply their course-work at their jobs. So, I developed new assignments in which students implemented query languages, template engines, and reactive UI frameworks. These assignments covered parsing, abstract syntax trees, interpretation, optimization, and compilation, and replaced assignments that had students implementing a Java-like imperative programming language. *The feedback on the assignments was so positive that they are now used in UW's standard undergraduate compilers course as well.*

I believe mentorship complements classroom learning. Mentors bring a different perspective, explain social customs and informal procedures, and introduce students to others in the community. In graduate school, I have mentored four undergraduates. I taught them practical skills with code reviews, pair programming, and design meetings, but I also advised them on job hunting, applying to graduate school, and composing resumes and application statements. *Two are now in graduate school (at UCSD and UBC) and two are applying this year.* I have also extensively mentored junior graduate students at UW through UW's graduate mentorship program. Every year, I have mentored three or four new graduate students and helped them balance classes with research, work out disagreements with their advisors, and search for research projects, Though they need less mentorship after their first year, I am still close with many of my mentees.

Finally, I believe that it is crucial to expand participation and inclusion in computer science education, especially as computer science enrollment grows. My interest in expanding educational opportunities began at MIT, when I taught AP Physics C on weekends for local students whose schools did not offer the class. My students achieved 4s and 5s on the exam, and one is now a graduate student at CMU. In graduate school, I have taught non-traditional students in the Professional Masters program and volunteered for Seattle-area math events for disadvantaged schools. I brought my interest in inclusion to the UW department-wide PhD mentoring program. Last year, I coordinated the program. *I recruited mentors extensively, leading to a 50% jump in mentor numbers.* The increase allowed me to institute a policy that every student have two mentors and that every incoming international student have at least one international mentor. This ensures incoming international students have a mentor who understood the difficulties of moving to a new country and navigating the visa system. This has now become the policy for all subsequent years.

I am excited about the future of teaching. Clickers and the ubiquity of mobile devices make formative assessment possible even during a lecture (checking whether students understood material before moving on). The ease of publishing notes, slides, and video on the web make more classes available for non-traditional students on a flexible schedule, and also allow educators to collaborate and exchange ideas. Online content can be interactive in a way no textbook could be. I am thrilled to explore these possibilities alongside experienced teaching staff in order to teach more efficiently and to help students learn more.