Teaching Statement

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My teaching philosophy is centered on describing technical concepts as they impact daily activities. My objective is that students learn the value in combining engineering abstractions with the policy context in which technologies evolve.

Computer networks underpin essential modern services, providing ample pedagogical opportunities to link technical abstractions with a concrete application. As I interactively describe these abstractions in the classroom, students frequently reference their experience with both networks and computing technologies more broadly. For instance, in my TA discussion section on computer networking, I ask students to list factors that impact their connection quality and select an issue among them to focus on for a final group project (they deliver a 6-page research paper). Students design networking experiments and evaluate whether the output data reveals which components of the network are impacting their connection quality. Students often study connection "speed" (throughput): during virtual instruction, as students join sessions from shared home connections, low Internet speeds are salient. By conducting Internet measurements, students often find that speed is only one factor among several determinants of their connection quality. For instance, two students did their term project on measuring connection quality from their respective homes in a large urban center and a rural area. They found that the urban connection is faster and described likely causes, including issues beyond speed such as interdomain connectivity.

As a faculty member, I envision a research seminar on "Data-Driven Internet Policy" drawing from literature in both policy and computer networking. By reading Tim Wu's "Network Neutrality," students would learn how the seemingly technical precept of "no traffic differentiation" hides unregulated disputes between residential broadband providers and web content companies. To discuss these disputes from a computing perspective, students would learn about under-provisioned links and ensuing localized congestion by reading "Inferring Persistent Interdomain Congestion" (*SIGCOMM* '18). More broadly, I am prepared to teach advanced courses in computer networks, distributed systems, cybersecurity and privacy. I am also able to teach introductory courses in data science and operating systems. These courses would build on my two years of teaching experience as an instructional assistant in computer science and electrical engineering, both graduate and undergraduate. I received positive teaching evaluations, with 90% of students recommending me to others.

In addition to classroom teaching, I mentor students engaged in research at the intersection of technology and policy. My goal as a mentor is to encourage students to build on their classroom experience and meaningfully contribute in a research setting. Initially, I provide precise data analysis instructions, so mentees see that they already have valuable research skills. Over time, I make my instructions less detailed to encourage research independence. As a result, several students (both graduate and undergraduate) have co-authored paper submissions with me.

My goal is that students reflect on the impact technology has on society, which will provide them with valuable skills in technical design while mitigating future societal harms induced by emerging technologies. This framework will serve students both in industrial employment (translating policy specifications into technical implementations) and in an academic career.