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# GIERAD LAPUT | TEACHING STATEMENT

Early in life, I was lucky to have teachers who were **passionate** about what they taught and mentors who genuinely **cared** about my success. This imbued in me an undeniable sense of gratitude and a desire to pay it forward, which has been influential in my pursuit of an academic career. As I transition to a faculty position and build my own research group, I look forward to expanding my impact as a teacher and mentor.

## TEACHING

My teaching philosophy places a strong emphasis on artifact creation to facilitate experiential learning. I take great inspiration from Scott Hudson's *Fabrication* class at Carnegie Mellon, which is known for its legendary assignments such as manually building a 3D printer. As a student, the process of building imparts many practical lessons; as a teacher, the artifact itself can be a metric for student progress. As a TA for "HCI Fundamentals" at the University of Michigan, I created several hands-on exercises, including "Design the World's Worst TV Remote Control," a twist on user interface prototyping. As a TA for CMU's "Designing Human-Centered Systems," I helped design and run "bake-offs"—a series of assignments where teams engaged in friendly competition and constructed working systems to address UI problems, such as "Fitts-law click optimizations," "typing on a smartwatch," "multi-touch direct manipulation", and "multimodal sensing." These bake-offs have been highly rated in class evaluations, underscoring the effectiveness of learning through building. Additionally, my teaching philosophy values synthesis and retrospection through writing. In all of the exercises mentioned above, I asked my students to articulate the technical choices they made and why they worked (or failed), and I believe this extra step can help solidify the learning process.

Outside of TA responsibilities and formal coursework, I have sought opportunities to teach other students and members of the community about technology and research topics. For example, I take great pride in designing and teaching an annual video production and publicity workshop for doctoral students in my department that covers practical skills for effectively conveying and disseminating research to the public. Likewise, I co-taught an electronics prototyping workshop with Chris Harrison that was open to the community. I have also shared my work in the Pittsburgh region and beyond by participating in city council panels, local TV and radio broadcasts, and events where I make demonstrations of my research available to the public (*e.g.*, Engadget Live event in New York City).

## MENTORSHIP

Mentorship is another key component of my approach to education. At CMU, I have closely mentored eight undergraduate, masters, and junior doctoral students, resulting in several research publications. My most rewarding mentorship experiences followed an apprenticeship model with an emphasis on hands-on experiential training. For example, Evi Bernitsas (CMU Computer Science undergraduate) and I co-wrote the signal processing and visualization code for SurfaceSight, which culminated into a research paper and a robust working system that has become a staple demo for lab visitors. Likewise, I closely mentored Yang Zhang (CMU HCI), providing crucial guidance during the early stages of his Ph.D., and our collaborations have resulted in several co-authored papers. Beyond research mentorship, I have also embraced leadership roles in student organizations. As Editor-in-Chief for XRDS (ACM's flagship student magazine), I manage and train a large team of student editors from all over the world. I am most proud of my role in creating a mission statement for the organization that set long-term precedents for the magazine's editorial position, inclusivity, and diversity efforts. I also oversee several initiatives for expanding the magazine's global reach, with a focus on countries where CS is underrepresented.

## EXAMPLE COURSES

Finally, my background in HCI has provided me with the interdisciplinary training to teach a wide range of undergraduate and graduate classes. I look forward to teaching or strengthening introductory HCI and studio-based courses. In addition, I am excited to teach more specific, project-intensive courses (examples 1-3) or broader survey-based graduate classes (4-5) such as:

- 1) Sensing, Rapid Prototyping, and Novel Interaction Techniques
- 2) Mobile and Ubiquitous Computing
- 3) System Architectures for Interactive Technologies
- 4) Survey Course on Technical Perspectives in HCI
- 5) Survey Course on HCI Process and Theory