

Statement of Teaching and Mentoring

My longstanding interest in computing, human-computer interaction, and information systems is singularly owed to the passion and dedication of my academic and professional mentors and peers. At Virginia Tech, I'm affiliated with the Department of Computer Science, the Center for HCI, and Technology-Enhanced Learning and Online Strategies (TLOS), an R&D division of IT. All three of these institutions have instilled in me a **commitment** to highlighting how **information systems** need to be built to **support and improve the trust we hold in social institutions** and their stakeholders, to **manage the excesses** of these systems, and to **foster inclusivity, empathy, and kindness**. I feel incredibly passionate about keeping this commitment alive in my students and advisees in my capacity as an instructor and mentor.

During the course of my doctoral studies at Virginia Tech, I've served as an instructor of record and graduate teaching assistant at the Department of Computer Science. I've also worked, as a graduate research assistant, with instructional designers, system administrators, and IT leadership at Virginia Tech, in helping evaluate course redesign cohorts, faculty development, and institutional support initiatives. This has allowed me a deeper understanding of key technological, managerial, and pedagogical challenges of university instruction. My teaching philosophy includes a commitment to (1) active, multimodal and project-based learning to foster **student engagement**, (2) engaging students in **interdisciplinary discourse** to encourage collaborative work, and (3) facilitating **equity and inclusivity** of access to resources of academic and professional success for students from diverse backgrounds.

1 Teaching philosophy

My teaching philosophy includes an essential commitment to student engagement, interdisciplinary discourse, and equity and inclusivity.

1.1 Fostering student engagement

The instruction of issues in computing and human-computer interaction requires a fundamental belief in the necessity of empirical work and active engagement. Two important instances of this are the in-class engagement of instructors and students in **active Socratic dialogue** [1], and active **engagement with problem and data owners** during contextual inquiry and fieldwork. I believe in the use of tools from active, multimodal, and project-based learning to foster student engagement and motivation. I also believe that teaching students the value of **autonomy with justification** in defining the objectives, stakeholders, methods, and impact areas of a class project can introduce a sense of responsibility and authorship in project groups.

1.2 Facilitating dialogue for cross-disciplinary collaboration

Issues and approaches in HCI are contributed by an impressively wide array of researchers and practitioners working in the physical, computational, and social sciences and engineering. To reckon with the breadth of this space, it's imperative that instructors (1) explore the **shared history of ideas** behind these HCI tributaries, (2) **enable student dialogue** with experts in cross-disciplinary research and practice, and help students identify the intentions, tradeoffs, and impact of their design choices, and (3) teach the value of **curiosity, initiative, and empathy**: the building blocks of a collaborative spirit.

1.3 Facilitating equity and inclusion

Higher education and professional development are among **privileges many are denied** because of their circumstances, including but not limited to their socioeconomic background or systemic disadvantages to **historically marginalized and disenfranchised groups**. Facilitating equity and inclusivity of access to these students in the academic, professional, technological, and personal domains is a prime imperative of

instruction. It requires a serious and continual reflection on the most commonly encountered barriers to course and career progress for these students, and how their effects can be countered in course policies. Some of the critical **best practices** to help advance the cause of equity and inclusivity are: (1) creating a safe, accessible and judgment-free environment for in-class participation, (2) creating accessible, asynchronous alternatives for course materials and assessments, (3) motivating students to engage in a safe and confidential manner with the instructional staff about their pressing needs, (4) communicating course policies in a clear and timely fashion, and (5) training teaching assistants and support staff to be empathetic and kind in responding to student needs.

2 Teaching experience: the present

I began my duties at Virginia Tech's CS department with a **GTA** role for CS1064 (**Introduction to Programming using Python**) in the **summer of 2020** (57 students, one UTA, major unrestricted). In summer of 2022, I served as the **GTA** for a joint offering of CS 3724/5714 (**Introduction to HCI + Usability Engineering**) course at the department (39 students, one UTA, open to graduate and undergraduate students). I graded all class projects and biweekly homework activities. I also mentored three project groups of 3-4 students each, throughout the semester, with weekly think-aloud sessions and in-depth reflection on project deliverables.

I then served as the **primary instructor** for CS1064 in **summer of 2021** (20 students, no TAs). I designed and curated all course content (slides, reading materials) and assessments (in-class coding exercises, weekly programming assignments, projects, and final exams), and held weekly office hours. Course modules on Canvas brought together the weekly reading content with quizzes and project deliverables due that week. Informal feedback from students appreciated the efficacy of frequent in-class coding challenges and demos. They also requested lecture recordings to assist with preparation for the final exam.

In the **spring of 2023**, I'll be teaching CS3724 (**Introduction to HCI**), with the help of two teaching assistants and an expected 90 students. The course will be structured to introduce a foundational UE process (the UX "wheel") [2] beginning with contextual inquiry and analyses, followed by design, prototyping, and evaluation phases. The course projects will draw from issues and perspectives in online recommendation and social media (notifications and awareness, education, fairness and trust, trending and going viral, affective approaches, communities, misinformation).

3 Teaching and mentoring experience: the future

It's a singular privilege to get a **foundational experience** of the instruction of computing and HCI topics. I plan to actively participate in departmental conversations on **curriculum policy**, redesigns and retooling of computing courses, uphold the principles of my **teaching philosophy** outlined in Section 1, and **engage the broader HCI and information systems community on campus** with weekly design challenges, industry mentorship programs, reading groups, and spotlight talks. I plan to use my industry contacts (Be-IQ, Collins Aerospace, Illumina) to help identify **industry partnerships** for my advisees, help them crystallize the social impact of their research and dissertation objectives, and bring together a hands-on committee to realize these objectives. I believe in an iterative, personalized mentorship approach for my research advisees. My primary goal is to foster their curiosity and creativity, and I'll encourage **small-group exploratory studies** on issues of focus for my research lab (social recommendation, trust, individual attitudes and propensities) to **identify interest groups** and **opportunities for collaboration**.

References

1. Jones, Brett D. "Motivating students to engage in learning: the MUSIC model of academic motivation." *International Journal of Teaching and Learning in Higher Education* 21.2 (2009): 272-285.

2. Hartson, Rex, and Pardha S. Pyla. The UX Book: Process and guidelines for ensuring a quality user experience. Elsevier, 2012.

3. "Facilitating effective discussions". <https://uwaterloo.ca/centre-for-teaching-excellence/teaching-resources/teaching-tips/alternatives-lecturing/discussions/facilitating-effective-discussions>. Center for Teaching Excellence, University of Waterloo. Accessed Nov 10, 2022.

4. "An easy-to-use checklist for holding inclusive meetings". https://uwaterloo.ca/human-rights-equity-inclusion/sites/ca.human-rights-equity-inclusion/files/uploads/files/inclusive_meetings_checklist-only.pdf. Equity Office, University of Waterloo. Accessed Nov 10, 2022.