

My ultimate goal is to become a professor at a university, where I intend to conduct research to advance the understanding of the role that Human-Computer Interaction (HCI) plays in our digital life. In particular, I hope to investigate: 1) how people perceive and interact during the adoption of technology in electronic health, 2) how the designs of an interface affect the use of technology for a variety of users, and 3) whether online learning and tutoring have improved the performance of a student. I am applying to the Master's degree in Computer Science at the University of Toronto because I believe this program will undoubtedly enhance my research abilities and prepare me for my future Ph.D. studies in HCI.

My research interests in HCI were kindled this summer when I conducted research in graphical user interfaces and data visualization for Professor Aijun An. This research project partnered with IBM for multiple pedestrian detection over video surveillance to aid airport security. My primary contribution was to design an interface and develop a web application so that different levels of computing users could see the results of a deep learning algorithm produced by Dr. Al-Shatnawi in our data mining lab.

As I began working, I started to think more deeply about the impactful connection between humans and technology. Even experts from IT companies like IBM prefer an easily navigable interface, so what people about with little computing knowledge? Surely, a simple interface can vastly improve their interactions with technology. Thus, I am interested in further investigating how HCI would influence and benefit different users so that technology could be applied more broadly. I believe this is particularly pertinent for seniors. Since electronic health has become a significant trend, how could technology facilitate the use of a health system for seniors if a system is too complex to navigate? I am interested in understanding how the design of an interface can resolve this problem and enhance usability among seniors in electronic health.

Also during the research internship, I attended weekly seminars to stay abreast of current research topics in data mining. Because of the ongoing pandemic, all seminars were held remotely via Zoom. However, I observed that most of the group members paid less attention to the remote communication, and the professor was usually the only one discussing with the presenter. This provokes an interesting question: online learning seems to be an ever-increasing tendency in education, but what if the use of technology is impeding the learning experience? Therefore, I want to further investigate how the design of the interface and system of eLearning can provide an immersing study environment, promote the leaning initiatives and contribute to student performance.

Besides my research interests, I think maturity, resilience and determination are good indicators for a candidate to succeed in graduate study. Due to immigration reasons and a change in my interests, I have transferred between multiple institutions. As I am becoming more mature, however, I now have a clear goal and plan for the future, and my resolution is a motivation to give me strength when I confront difficulties, such as when I stepped out of my comfort zone to speak in front of hundreds of students as a class representative. Moreover, my background in the study of Studio Art at the University of Toronto and Computer Science at York University also gives me the requisite design, technical and quantitative training to conduct significant, meaningful research in HCI.

If admitted to the Department of Computer Science, I would relish the opportunity to collaborate with Professors Tovi Grossman, Daniel Wigdor, Fanny Chevalier, Ravin Balakrishnan, Joseph Jay Williams, and others. I am fascinated by Professor Grossman's finding on the importance of interpersonal contact in seeking help for feature-rich software among professionals and the room for improvement in modern communication technologies. I am intrigued by Professor Wigdor's research concerning the connection among digital platforms, streamers and audiences for the ubiquitous outdoor livestreaming activities in China. Furthermore, I am interested in Professor Chevalier's work on the significance of addressing the issue of the ability to extract information from data visualization, especially in early education.

In addition to my keen interest in collaborating with specific faculty, the Department of Computer Science is an ideal fit for my research ambitions because of its focus on HCI study with many outstanding faculty members, the environment of small class sizes that provide close mentoring, its entrepreneurial culture that encourages students to pursue their own projects, its unparalleled access to resources for diverse research methods, and its stunning location in downtown Toronto. These resources and the guidance of the Department of Computer Science would prepare me for my Ph.D work and empower me to achieve my objective of advancing our understanding of how HCI stimulates the usage of technology.