# Graduate Statement of Purpose

As I approach the completion of my dual degree in English and finance at Jilin University, I have made a commitment to deepening my knowledge and refining my skill set with a Master's of Science in Information from the University of Michigan. The decision is a natural outcome of my interest in the intersection of the disciplines of language and technology for the purpose of creating a convenient and effective means of interaction.

While my dual degree in English and finance may seem unusual, it has allowed me to step outside my comfort zone and face various challenges that an early fixed motivation would not have. I have also acquired valuable insights and skills from such experience. For example, during my work as a translator, I saw how technology shaped and benefitted my efforts. Language learners and users need to adapt and utilize technology to bolster their work, and CAT (Computer Assisted Translation) software assisted with mine. Then, in my second year of college, I worked with Corpus of Contemporary American English, and learned about its applications and fundamental concepts of statistical methods in computational linguistics. During my internship at PricewaterhouseCoopers, I became familiar with Aura, the company's chosen auditing software. The majority of our work was completed on this platform, where we retrieved and analyzed data from different companies' accounts and extracted necessary information. This allowed us to evaluate the accuracy and scope of the information presented in financial and non-financial statements. I realized that information management in an organization should focus on building bridges between stakeholders and the required information while simultaneously assuring the quality and utility of that information. The finance curriculum also propelled me to learn data analysis tools such as SPSS and R, and piqued my interest in applying information technology in applied research settings. For the latter, I participated in a few cross-disciplinary research projects and gradually developed my interest in information.

The first involved determining the deficiency of traditional Chinese cultural elements within English major textbooks. After collecting, arranging, and tagging certain words in the required texts, I ultimately adopted NLTK in Python to count word frequency and generate statistical plots. This project is still ongoing, and inspires me to continue my quest to answer how human language can be combined with technology. The second project happened when I was pursuing my second degree in finance, and had a profound impact on my decision to continue my studies at the graduate level. It was a market research project to gather customer opinions and analyze operational strategies of all the bookstores in Changchun. In order to use sentiment analysis to bolster the work, I first defined two dictionaries of positive and negative Chinese expressions and used Web Crawler tools to collect customers' reviews on the website. Then, with the help of Python's JIEBA word segmentation tool, I could tokenize and POS tag reviews as positive or negative. Next, I analyzed the filtering of reviews and eventually wrote code to automatically generate reports on the results. While a simple implementation, this project showed me the necessity of expanding my knowledge of computational linguistics and enlightened me about integrating language technology in the design of applicable products like a recommender system.

Through these projects, I laid a technical foundation of data analysis and programming, and I implemented my knowledge during a recent summer session at the National University of Singapore. Collaborating with other students from Singapore, I participated in the design of an app called Hands-Reach after attending a workshop at NUS Enterprise. It helped customers quickly and easily find, pre-order, and purchase books online, and have them delivered for little to no cost. I shared my understanding of potential customers and high-frequency use settings, as well as some data I had previously collected. We did some surveys on the context of use and had NUS students answer our questionnaire. We understood the users' expectations of the system by listening to their needs and made changes based on their suggestions and feedback. Finally, we came up with the information architecture for Hands-Reach and gave a presentation. From this project, I understood that a good design should be based on a thorough analysis of user goals and context of use, and decided to further study HCI in graduate school.

This diverse path has been my approach to my undergraduate studies, and continues to inspire me to reach my goal of becoming a UX designer, combining language and information technology in HCI to create an environment of enhanced interaction. Specifically, I am interested in the combination of intuitive, user-centered interface design and language technologies such as speech recognition and semantic search, as well as in how information-seeking behavior will shape the UI design. At the same time, I will advance my understanding of natural language processing, which is particularly enticing to me as it was stressed in my undergraduate study of linguistics and translation. I would also like to explore effective design of computer interfaces for people who suffer from language disorders such as dyslexia and dysgraphia. Due to traumatic brain injury or genetic factors, they have difficulties in speaking, reading, or receiving age-appropriate education. I have experienced it in my own life and I am familiar with their eagerness to learn like normal people. I look forward to building a computer interface that helps them learn and communicate.

The MSI program at the University of Michigan School of Information offers a track and group settings in which I can excel. With state-of-art facilities, talented and devoted faculty, and a fine academic atmosphere, it has achieved high prestige and respect ever since its founding. I will be equipped with knowledge related to my practice and have the freedom to tailor my own study plan to build my skill sets brick by brick. Courses such as Fundamentals of Human Behavior, Human Interaction in Information Retrieval, User-Generated Content, and Natural Language Processing especially suit my needs. I appreciate the collaboration with the community in Ann Arbor and the variety of partnerships with companies and non-profit organizations that will provide me with hands-on opportunities to put what I learn to the test. Reviewing alumni, faculty, and student profiles on the website, I was excited to discover a strong commonality between many of the people's interests and my own: students and teachers at UMSI believe that technology can be used to craft a better world and reshape the interaction between people and information. The UMSI community creates a feeling of identification for me, as well as a sense of excitement at joining others in contributing my understanding of linguistics and other professional skills to the betterment of my class.

In addition, I discovered many student groups that are attractive to me. For example, A2 Data Drive's goal of increasing data literacy in the community and working with non-profits meshes with my desire to serve others in the community. I would also like to find a place in the Queer STS Reading Club, which reminds me of past inspiring experiences at readers' meetings in my university. Surely this is an opportunity to collaborate, build skills, and develop lifelong networks of friends and colleagues. My life at the University of Michigan will be wonderful and rewarding, since it provides such a perfect learning environment for me to dive into the study of information.