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Applying for: PhD in Information, University of Michigan

**ACADEMIC STATEMENT OF PURPOSE**

My interest in *Human-Computer Interaction* (HCI), especially the *Social Computing* aspect,was motivated by my own life experience. For around ten years, I have been studied and worked far away from my hometown. Online communication and social network sites stepped in my life, playing the role of bridge between me and my family. I have been greatly fascinated by computer-mediated human-human interaction and the value that HCI design in this space may bring to people. In particular, I am intrigued by topics of *computer-mediated communication*, *cross-cultural online interaction,* and *crowdsourcing*. Modern computer-mediated communication tools are no more “just mere communication channels”. In the age of intelligent and ubiquitous computing, computers may also process information for communication participants, and actively participate in the interaction. With these emerging technologies, how to apply social science theories to mediate social interactions and stimulates the potential power of crowds? Pursuing PhD provides me more opportunities and resources to concentrate on my research. Ultimately, my goal is to continue my research in academics and to contribute to the education of HCI and Social Computing after PhD, and I have had necessary preparation and experience for pursuing the line of research.

I have a tremendous interest in how people interacts and how their relationships can be utilized. I believe that social relationships can be an excellent source of motivation to mobilize people for quality crowd-based works. Currently, I am working on friendsourcing with Prof. Hao-Chuan Wang of National Tsing-Hua University, who establishes the first lab for social computing in Taiwan. In an initial study, we found that requesters are willing to pay more than what workers expect in friendsourcing, which is counter-intuitive as crowdsourcing researchers and practitioners tend to consider friends’ help free. This primitive finding has been now submitted as a poster to *ACM CSCW ’15*. We are now working on a hybrid crowd-powered document editing system, which combines regular crowdsourcing and friendsourcing in order to direct micro-tasks of different properties and requirements. For example, grammar checking requires only language skills while editing of personal content may work better when social relations exist. A system that carefully blends and leverages regular crowdsourcing and friendsourcing is likely to generate value that each of them cannot obtain. Furthermore, we plan to test the social-driven editing system with users from different countries, to see how cultural differences impact on behaviors toward friends and strangers (i.e., crowds) and presenting the flexibility of the system on editing multi-language documents.

I have been working on crafting intelligent machines to interpret human behaviors. I worked on social signal processing of face-to-face conversational engagement when pursuing my master’s degree. The traditional approach of social signal analysis used sophisticated mathematical models to model and interpret social behaviors. I proposed a more flexible framework to involve human intelligence for assessing face-to-face conversational engagement. The work was accepted by *AAAI-12 Activity Context Representation Workshop*, and developed into my master’s thesis eventually. Besides, I also had the opportunity to visit Carnegie Mellon University (CMU) Silicon Valley for collaborative research between National Taiwan University and CMU. I joined a project led by Prof. Ted Selker on Auditory Presented Social Information. We aimed to understand how audio channel presents three pieces of social information: speaker identity, presence, and entry/exit, in an intelligent teleconference system. I carefully designed the icons according to syntax (sound and placement) and semantic (relationship to the conversational channel). The work successfully showed that information from audio channel can improve users’ sensory experience in the interaction. The paper was accepted by *INTERACT ’13.*

In addition to the expertise on technology developing, I realized that computing machines alone are not enough to realize computer-mediated communication of satisfying experience of the users. These computer-based communication channels need elegant design to better integrate them with the communication processes. When working on Reminiscence-Aiding Interface project, I and my colleagues explored the effects of soundscape in aiding reminiscence, i.e. recalling and telling past stories. We aimed to see how sound, the always-unfinished digital artifact, can help users record their life. Interestingly, we found that reminiscence cannot only help people recall their stories, but even motivates people to be more sensitive to what is happening around them in situ. And the personal meaning carried by sound can be extended to mediate communication, and therefore creates more new experiences. The series of the soundscape project were accepted as posters in *ACM DIS ’12* and *ACM CHI ’13*, and as a full paper in *IASDR ’13*.

I believe that an outstanding academic is not only excellent at research, but also devotes herself to serve and nourishes the research community. I have TAed “Introduction to Computer Science”, an introductory course for freshman in computer science, and “User-Oriented Innovative Design”, an interdisciplinary course for engineering and design graduate students. Additionally, I served as the program chair for OpenHCI Workshop ’13 (http://www.openhci.com/2013), the biggest annual student-organized HCI event held in Taiwan. I have led more than 20 graduate students from more than three different universities to complete the work and deliver the event very successfully. All these experiences provide me concrete basis to receive higher training to teach even more professional  knowledge.

I have long been wondering if cultural difference has anything to do with the state of the art of social computing. As an Asian, it is my inherent responsibility to bridge the cross-cultural gap. An environment with high multi-cultural composition is necessary for me to earn cross-domain knowledge of information technology. University of Michigan (UM) is a top comprehensive university, providing abundant resources to help students cultivate a broader view of research. The Information School of UM has strong research background in social computing. The collaborative research group Michigan Interactive and Social Computing (MISC) provides an excellent cradle for researchers from diverse background to incubate their ideas. PhD in Information of UM emphasizes the insights from diverse domain. All these resources can help me cultivate skills to take research as a life-long career. Based on my research interest on Social Computing, Professor *Katharina Reinecke*, Professor *Tawanna Dillahunt*, and Professor *Paul Resnick* should be the best supports to my research. Your cross-domain collaboration and resources can best nourish my research.