**RESEARCH STATEMENT**

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My research aims to accelerates data-intensive and user-centered approaches to health informatics with a primarily focus on the interactive relationships between those who living with chronic conditions and their caregivers and information technology (IT). Furthermore, I actively collaborate with researchers and students from diverse disciplines within this area, working in cohesive teams to achieve comprehensive and innovative outcomes. In this statement, I highlight my research interests, approach, and envisioned future direction.

**Research Approach**

***Impact of IT on Health Information Behavior and mHealth Application Development***

The primary goal of my research is to provide support and advocacy for health information users across various health contexts, with a particular focus on chronic conditions. To achieve this, my research involves understanding the socio-behavioral implications of the reciprocal relationship between information technology (IT) and health information users. Additionally, to enhance tailored and sophisticated information services, my study identifies distinctive information needs, as well as seeking and sharing behaviors, and explores the social and cognitive factors that influence the use of IT for making informed health decisions.

The main context of my research is chronic conditions that are often associated with aging such as hypertension, diabetes, cancer, and dementia as my primary objective of my research is to conduct impactful work that benefits aging communities. To achieve this goal, In collaboration with my team, I also convert the insights gained from these studies into guiding principles for developing health applications. For example, one ongoing project involves developing a voice-activated mobile health (mHealth) application to support the self-management of individuals with both hypertension and diabetes. This theory-based mHealth application is designed based on their specific information needs and health information-seeking behaviors.

***Highly Interdisciplinary and Data-intensive Approach***

In these areas, I have actively participated in and led highly interdisciplinary research collaborations with scholars and students from diverse fields, including information studies, nursing, computer science, education, social welfare, educational technology, and communication disorders. This multidisciplinary collaboration allows me to apply, extend, and generate knowledge both within and beyond health information behavior, resulting in comprehensive and innovative outcomes. By integrating expertise from multiple disciplines, we transform insights and knowledge into conceptual models and guiding principles for developing digitally assistive intervention applications.

Furthermore, in pursuit of the research goals mentioned above, I often use a bottom-up approach by leveraging publicly generated text data mined from social media or secondary datasets. These textual data, shared by health information users across various IT platforms, offer valuable insights into users' needs, perceptions, and behavioral patterns. They also help identify medical concepts and vocabularies distinct from those used by health professionals. However, the rapid growth and noisy nature of this data (e.g., arbitrary abbreviations) make it challenging to access and interpret the latent insights. To address this, my collaborators and I frequently employ computationally intensive methods such as text analytics, topic modeling, and semantic network analysis. We also integrate traditional analytic methods, such as qualitative analysis and advanced statistical techniques (e.g., logistic regression), to gain more meaningful results.

**Future Plans**

My future research aims to persist in investigating the dynamic and synergetic relationship between IT in healthcare and information users living with chronic conditions and their caregivers. Collaborating with experts from various disciplines, I will advance interdisciplinary and user-centered approaches to health information-related issues. Additionally, I will continue to leverage technologies to promote public health by contributing to the related body of knowledge and developing practical tools. However, the scope of research will expand twofold, driven by the rapid rise and prevalence of artificial intelligence (AI) technologies with the potential to reshape behavior and the decision-making processes of health information users, which in turn can influence the AI-driven technology design in healthcare: a) Given the rapidly changing landscape of daily life and work due to AI, my research will include the impact of AI use for health information use and healthcare decisions; b) I will broaden the research context to educational settings. Given the rapid growth of emerging technologies such as AI, future information professionals must be prepared to excel in highly technological, interactive, and AI-driven work environments. With collaborators from education, I aim to explore innovative ways for teaching methods to foster essential information and technological skills of information professionals. This will prepare them to enter the workforce ready to solve pressing IT and societal challenges regarding emerging technologies for information users.