Language Understanding λ(μ) Laboratory

Dr. Zilu Liang

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"From Smartwatches to Social Network Services: Digitalize Health with Ubiquitous and Personal Computing Technologies"

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10:00 - 11:00 (Thailand Time)

February 18, 2024

Chairperson:
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Mr. Prasan Yapa

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Japan

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ABSTRACT: The landscape of personal health and wellness is undergoing a drastic paradigm shift. Consumer wearable devices and software services provide a great way for individuals to tap into their physical and mental health in daily life. This phenomenon of self-tracking with technology is called the “Quantified self”. From a research perspective, the “Quantified self” approach allows longitudinal data collection in daily life environment with minimal constraints on the participants, enabling researchers to study physiological and behavioral phenomena in the wild. This talk will consist of two parts. In the first part, we will introduce the research projects in our lab surrounding the applications of ubiquitous computing technologies in a wide variety of “Quantified self” health contexts, covering topics including sleep tracking, sleep apnea screening, gamified sleep hygiene intervention, heart rate prediction, blood glucose pattern analysis, depression detection, and brain imaging. In the second part, we will explain in depth one of our projects on detecting the severity of human depression through social media multi-party conversation (MPC) analysis. We will also discuss the opportunities and challenges in this research field.

Dr. Zilu Liang is an Associate Professor and the Founding Director of the Ubiquitous and Personal Computing Lab at the Kyoto University of Advanced Science (KUAS), Japan, and an Associate Research Fellow at the Institute of Industrial Science at the University of Tokyo. She received her PhD in Electrical Engineering and Information Systems from the University of Tokyo in 2015. She was a visiting scholar at the University of Oxford, Imperial College London, and the University of Melbourne. She is an avid supporter of the Quantified Self movement. She combines a wide variety of sensing, computing, and data mining techniques to tackle the challenges surrounding data collection, data analysis, and human-computer interaction in the Quantified Self, with a strong focus on health and wellbeing. Her research projects have been supported by JSPS and AMED. She is a member of several research associations, and she has received several awards for her research achievements.

Mr. Prasan Yapa is currently a second-year PhD candidate at the Faculty of Engineering, KUAS, Japan. His doctoral work explores the detection of human depression severity in social media text-based multi-party conversations. He received Master of Computer Science (research major) and Bachelor of Science in Information Technology from University of Moratuwa, Sri Lanka in 2022 and 2015, respectively. He was a visiting lecturer with the Department of computer science and Software Engineering, Informatics Institute of Technology, Sri Lanka from 2016 to 2020. His research interests include text classification, generation & summarization in natural language processing, sentiment analysis, machine/deep learning, ontological modeling, affective computing, and health informatics. He has been awarded multiple best paper awards for the contributions made in the field of natural language processing.

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