Title: From Food Recognition to Wellness Applications: The Key Challenges

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Abstract:

It has been well recognized that what we eat has great impact on our personal wellness. However how to manage our food intake and wellness effectively is a key challenge. An important first step towards wellness management is to log what we eat, which currently can be most conveniently done using visual food recognition technology via mobile devices. In order to make this information useful to users, we next need to develop tools to extract nutrition information from food log, analyse implications to personal wellness, follow by wellness recommendations and applications.

This talk present current research towards robust visual food recognition, covering key topics like ingredient, multi-dish and hierarchical food recognition, and its scalability. Next we discuss research on nutrition extraction and wellness recommendation, covering key topics on the use of knowledge graph to encode knowledge from food to nutrition and critical illnesses, and the use of such knowledge to make actionable recommendation to users. Third, we cover research on wellness applications, aiming to help various segments of users to manage their wellness, including sports, pregnancy, weight loss, and various critical illness groups. Last but not least, we discuss the food we eat and its long term impact on our environment. The talk presents more issues than solutions, and aims to generate healthy discussions on this topic.

Bio:

Dr Chua is the KITHCT Chair Professor at the School of Computing, National University of Singapore (NUS). He is also the Distinguished Visiting Professor of Tsinghua University. Dr Chua was the Founding Dean of the School of Computing from 1998-2000. His main research interests include unstructured data analytics, multimedia information retrieval, recommendation and conversation systems, and the emerging applications in E-commerce, wellness and Fintech. Dr Chua is the co-Director of NExT, a joint research Center between NUS and Tsinghua, focusing on Extreme Search.

Dr Chua is the recipient of the 2015 ACM SIGMM Achievements Award for the Outstanding Technical Contributions to Multimedia Computing, Communications and Applications. He is the Chair of steering committee of ACM International Conference on Multimedia Retrieval (ICMR) and Multimedia Modeling (MMM) conference series. He was the General Co-Chair of ACM Multimedia 2005, ACM CIVR (now ACM ICMR) 2005, ACM SIGIR 2008, and ACM Web Science 2015. He serves in the editorial boards of three international journals. Dr. Chua is the co-Founder of two technology startup companies in Singapore. He holds a PhD from the University of Leeds, UK.