**COLLOQUIUM**

Department of Computer Science and Engineering

University of South Carolina

### **Applying Multimodal Sensing to Indoor Localization**

### **He Wang**

Date: **January 15, 2016**

Time: **1450-1605 (2:50-4:05pm)**

Place: **Swearingen 2A26**

# Abstract

Abstract: Indoor localization has been a tantalizing problem in mobile computing, and despite significant research, there is no solution yet in the mainstream. In this talk, I will discuss the landscape of indoor localization. I will also talk about my own research, UnLoc, which breaks away from pure RF based localization (e.g., cellular, Wi-Fi) and shows the benefits of leveraging smartphone sensors (accelerometers, gyroscopes, magnetometers, etc.) into the solution framework. I will describe additional solutions, VideoLoc, where feeds from surveillance cameras can be leveraged for highly precise localization and customer interaction, without compromising privacy of individual users. I will end with how some of our core techniques are not specific to localization and can be extended to other applications such as augmented reality.

 **He Wang** is a PhD candidate in the department of Electrical and Computer Engineering at University of Illinois at Urbana Champaign. His research focuses on designing mobile sensing systems, with an emphasis on indoor localization. His work has been featured in the media such as Scientific American, MIT Technology Review, LA Times, Yahoo News and Daily Mail. He received his master’s degree from Duke University in 2013 and bachelor’s degree from Tsinghua University in 2011.