

COMPUTER SCIENCE RESEARCH SEMINAR

Understanding and Using Interactions of People in Real and Virtual Environments

Dr. Sean K. Banerjee
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Friday, May 10, 2019 at noon in room R15, Engineering Building

Abstract: The democratization of technologies such as the Internet, social media, smart consumer devices, and sensors has enabled the generation of vast quantities of data on human behavior in a variety of forms such as text, video, and audio in online and real-world environments, enabling the use of this data for a large range of applications. In this talk, I will discuss my early work on using the structure of language as used in bug reporting systems to determine whether problem reports describe original or pre-existing issues in software systems. I will talk about my work on using human perceptible differences in commute time to automatically cluster the United States Census data to provide improvements in computing drive times for site selection. I will discuss our work on leveraging user familiarity with smart consumer devices to improve authentication of users. I will talk about novel work that has emanated from our lab on using real-world user behavior in virtual environments to provide free form user authentication. I will end my talk with discussing how our lab is reconstructing new forms of 3D multi-modal data by fusing input captured by a dense multi-view multi-modal sensor system, and using this data to provide automation in fields such as physical therapy, occupational therapy, software engineering, and robotics.

Bio: Dr. Sean Banerjee is an Assistant Professor at Clarkson University in Potsdam, New York. At Clarkson he is co-founder and co-director of the Terascale All-sensing Research Studio. Prior to coming to Clarkson, Sean was a post-doctoral researcher at the Robotics Institute in Carnegie Mellon University in Pittsburgh, Pennsylvania. He received his Ph.D, M.S. and B.S. from West Virginia University in 2014, 2006 and 2004 respectively. His research lies at the intersection of software engineering, machine learning, natural language processing and human-machine interaction. He was a co-author on the MMSP 2018 Top 5% Paper titled "User-Independent Detection of Swipe Pressure using a Thermal Camera for Natural Surface Interaction", MMM 2019 Top 5 Paper titled "Task-Driven Biometric Authentication of Users in Virtual Reality (VR) Environments" and the HASE 2011 Best Paper titled "Effects of user habituation in keystroke dynamics on password security policy".

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Refreshments will be provided!