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Department of Civil and Environmental Engineering
Case Western Reserve University
Bingham Bldg, Room 208
10900 Euclid Ave
Cleveland, OH 44106

Civil and Environmental Engineering Department Seminar

Harnessing the Power of Crowd for Human-centric Computing Systems

Dong Wang

Associate Professor, Department of Computer Science and Engineering, University of Notre Dame

Date: Friday October 23, 2020, 12:45 – 2:00 PM

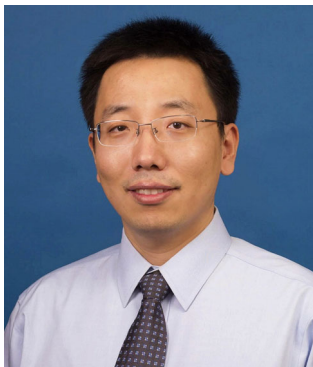
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<https://cwru.zoom.us/j/91399743238?pwd=QlVTVWJFVUdFGZDVON2ZMVmZlZlFkdz09>

Abstract

The advent of online social media, the ubiquity of computing and communication capabilities, and the proliferation of a wide variety of digital sensors owned by individuals allow humans to create a deluge of unfiltered, unstructured and unvetted data about the physical environment. This opens up unprecedented challenges and opportunities in the field of social sensing, intelligence and computing (SSIC), where the goal is to fully harness the power of humans and devices in their possession to accurately describe the state of the physical world. This talk will present our work on developing analytical frameworks and real-world systems to address some key research challenges in SSIC. For example, how to use unreliable humans as reliable sensors to reconstruct the “states of the world” both physical and social? How to actively integrate crowd intelligence with AI to explore the collective strength of both humans and machines? The developed framework and systems have been applied in a wide range of real-world applications such as misinformation detection, crowd-based disaster response, intelligent transportation, and environment monitoring.

About the speaker:



Dong Wang is an associate professor in Computer Science and Engineering Department at the University of Notre Dame. He received his Ph.D. in Computer Science from University of Illinois at Urbana Champaign (UIUC). His research interests lie in the area of social (human-centric) sensing, intelligence and computing, big data analytics, human cyber-physical systems, and smart city applications. Dong Wang has published over 100 technical papers in peer reviewed conferences and journals. His research on social sensing, intelligence and computing resulted in software tools that found applications in academia, industry, and government research labs. He authored a monograph “Social Sensing: Building Reliable Systems on Unreliable Data” published by Elsevier 2015. He received the NSF CAREER Award in 2019, Google Faculty Research Award in 2018, Young Investigator Program (YIP) Award from Army Research Office in 2017, NSF CRII Award in 2016, Wing Kai Cheng Fellowship from University of Illinois, and the Best Paper Award of IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS). Dr. Wang’s website: <http://www3.nd.edu/~dwang5/>