Fall 23: Social Sensing and Human-Cyber-Physical Systems
Course Number (CRN): 75278
Time: Monday 1:00-2:55 pm, Type: Online
Instructor: Dong Wang (dwang24@illinois.edu)
Textbook: Social Sensing: Building Reliable Systems on Unreliable Data (recommended but not required). We will also read state-of-the-arts papers in the top conferences and journals in the field.
Prerequisite: Comfortable with Python programming.
Grading: Grading is mainly based on course projects and class presentations. There are no exams or quizzes.

Description:
Just as Internet changed the way people interact with each other, social sensing and human cyber-physical systems (H-CPS) are changing *the way people interact with the world*! Social sensing and H-CPS integrate sensing, computation, control and networking into physical objects and infrastructure, connecting them to the Internet and to each other. This course offers students the opportunity to learn the theoretical foundations, state-of-the-art techniques, emerging applications, and hands-on experience in this emerging area.   The advances in such an area hold the potential to reshape our world with more responsive, precise, reliable and efficient systems, enabling a revolution of "smart" devices and systems – from smart cars to smart grids collectively giving rise to smart cities – that can address some of our most pressing national priorities (e.g., health, energy, climate, science & technology, security, etc.)

Some **sample topics** that will be covered include:
- Fighting Information Overload in Online Social Media Sensing (e.g., Twitter, Facebook, Reddit)
- Data Reliability and Information Trustworthiness Issues (e.g., truth discovery, misinformation detection and explanation)
- Mobile and Crowdsensing (e.g., smartphone-based sensing)
- Automotive Sensing and Intelligent Transportation (e.g., green navigation)
- Wearable Sensing and Body-Area Sensor Networks
- Social-Physical Sensing Integration (e.g., collective intelligence from humans and machines)
- Privacy, Medical Sensing and Applications