



Department of Computer and Information Science

Spring 2018 CIS Faculty Research Talk Series

Smartphone and Smartwatch-based Activity Recognition and Biometrics

**Speaker: Gary M. Weiss, Director of the WISDM Lab
Fordham University**

Date: April 25, 2018

Time: 12:00 pm – 1:00 pm

Venue: John Mulcahy Hall (JMH) 342

Abstract: Smartphones have become ubiquitous and smartwatches are increasing in popularity. Both of these mobile devices contain sophisticated sensors, including an accelerometer and gyroscope, which can describe the wearer's movements. In this talk I will describe the research conducted in my Wireless Sensor Data Mining (WISDM) lab that exploits this motion sensor data to identify what physical activity the wearer is performing (activity recognition) and to identify/authenticate the wearer's identity (biometrics). Our results, based on an extensive set of experiments, demonstrate that these mobile devices can be quite effective at performing activity recognition and biometrics. The relative value of the accelerometer sensor versus the gyroscope sensor, and the smartphone devices versus the smartwatch device, are also assessed for both activity recognition and biometrics.

Speaker's Biography: Gary Weiss, Ph.D., is an associate professor in the department of Computer and Information Science at Fordham University in New York City. He is the founder and director of the Wireless Sensor Data Mining (WISDM) Lab, which explores how sensor data from mobile devices can be mined to generate useful knowledge. His work has been funded by the US National Science Foundation and several industry partners, and he was the recipient of a Google Faculty Research Award. Dr. Weiss has published more than seventy research papers, book chapters, and edited works on machine learning and data mining, and serves as an associate editor or editorial board member for three international journals. He has been active in his research community, serving the program committee of many major conferences, and has helped to organize several conferences and workshops. He has received a 5-year greatest impact award from IEEE for a 2010 paper on biometrics, and an Innovative Application of Artificial Intelligence Award from the Association for the Advancement of Artificial Intelligence (AAAI) for his work on expert systems. Prior to coming to Fordham, Dr. Weiss worked at AT&T Labs as a software engineer, expert system developer, and finally as a data scientist.

Refreshments will be served!