The GW/ECE/Research Blitz

Yiwen Zhou, Ph.D, Advisor: Dr. Lang
Accurate Measurements and Model Function for the Dielectric Constant of Seawater at L-band
Our research has focused on accurate measurements of the dielectric constant of seawater at L-band. This is the center of the protected band (i.e. passive use only) used in the radiometric measurement of sea surface salinity. The purpose of this study is to provide an accurate model of the seawater dielectric constant for Earth observing satellites to retrieve ocean surface salinities from remote sensing data. The new seawater dielectric model function has improved the accuracy of the salinity retrieval at low temperature.

Pradeep Kumar, Advisor: Dr. Huang
Systems and Methods for Big Data (Graph) Analytics
Big data systems such as graph processing have become increasingly important for our society with broad applications such as health sciences, web search, social networks, knowledge bases etc. Technology advancements and its reach to masses have enabled such networks to cross the level of billions of vertices and trillions of edges, reaching terabytes of data. In this talk, I will discuss how to design an end-to-end system for high-performance graph computation including the IO stack, efficient memory utilization and the caching policy, and the data layout.

Maotong Xu, Advisor: Dr. Subramaniam
Optimizing Speculative Execution of Deadline-Sensitive Jobs in Cloud
Meeting desired application deadlines in cloud processing systems such as MapReduce is crucial as the nature of cloud applications is becoming increasingly mission-critical and deadline-sensitive. It has been shown that the execution times of MapReduce jobs are often adversely impacted by a few slow tasks, known as stragglers, which result in high latency and deadline violations. We bring various speculative scheduling strategies together under a unifying optimization framework. We jointly optimize the probability that MapReduce jobs meet their desired deadlines and execution cost in different strategies.

Friday, November 10th 2017, 12:00 pm - 1:30 pm
Science & Engineering Hall, Room B1270, 800 22nd Street, NW

Refreshments before and ice cream after.
The Blitz can count as one colloquium for students.