CSE 597: Wireless Networks and Mobile Computing

Instructor: Guohong Cao  
Office, Phone, Email: 354G IST Building, 863-1241, gcao@cse.psu.edu  
Office Hours: Wednesday 1:00PM - 2:20PM  
Class time, place: WF 2:30-3:45PM Earth and Eng Sciences 118  
Class Web page: http://www.cse.psu.edu/~gcao/teach/597

Course Summary: This course will cover recent progresses in the field of wireless networks and mobile computing, especially on topics related to smartphones. Through this course, students will learn both fundamentals and applications of wireless networks and mobile computing, and obtain hands-on experiences through research projects (e.g., protocol design, wireless and mobile device development). The course will also help students understand the challenges and opportunities, and identify potential research problems in this field.

Course Outline:

1. Wireless networks  
   – basic routing protocols for wireless networks  
   – power saving techniques  
   – Internet of Things  
2. Disruption tolerant networks  
   – routing, social aware data forwarding  
   – data dissemination, urban sensing  
3. Smartphones and applications  
   – Energy and resource management  
   – mobile cloud  
   – Activity recognition  
   – crowdsourcing  
   – security and privacy issues

Prerequisite: CSE 514

Textbook: There is no textbook for the course. Lecture nodes, handouts, and research papers will be distributed during the class.

Course Grading:

- Exam: 20%  
- Assignment: 20%  
- Class participation: 15%  
- Course project: 45%