Research Experiences for Undergraduates
Summer Program in UBIQUITOUS SENSING
May 21 to July 27, 2018

The Department of Computer Science and Engineering at the University of South Florida in Tampa, FL offers research summer opportunities for qualified junior and senior undergraduate students in the area of Ubiqtuitous Sensing. The program, funded by the National Science Foundation’s Research Experiences for Undergraduates (REU) program, will select ten (10) students every year to work for 10 consecutive weeks during the summer in research projects. During that time, students will share their experiences with fellow participants, attend seminars, acquire oral and written presentation skills, and learn how to conduct independent research. Students will be awarded a stipend of approximately $6200 plus travel and on campus housing.

Research projects will be on Ubiqtuitous Sensing, a new area of research that encompasses the integration of smartphones with sensors and Internet technologies to address large-scale societal as well as individual problems.

Current research projects are mainly in the areas of:

- **Transportation**
  - Indoor and outdoor navigation systems for visually impaired people
  - Vehicle counter and traffic estimator
  - System to characterize and assess bicyclists vulnerabilities

- **Health care**
  - Application to help people with Congestive Heart Failure conditions
  - Application to analyze walking patterns to help people with hip and knee replacements and other walking conditions
  - Fall detection and fall prevention systems

- **Security (biometrics)**
  - Automatic authentication system based on people’s gait

In all these projects, students will learn Android programming to develop the applications and collect raw sensor data. Then, they will apply computer science algorithms and techniques to the data to help people navigate, improve their health, authenticate users, recognize the user activity, analyze walking patterns, etc. according to each project.

We are receiving applications until March 1st, 2018. Please visit [http://reu.cse.usf.edu/index.html](http://reu.cse.usf.edu/index.html) for more information.