COM S 610. Advanced Topics in Software Engineering and Programming Languages (2015 Spring)

Instructor: Wei Le (weile@iastate.edu), Hridesh Rajan (hridesh@iastate.edu)
Meet: F 3 - 4 pm, 213 Atanasoff
Office hours: email by appointment

Topics Included But Not Limited To:

- **Analyzing big code**: mining Internet-Scale software repositories
- **Quality assurance in the agile development era**: software changes, versions and variability
- **PL and SE challenges for Internet of Things (IoT)**: analysis and testing for Android, event-driven code
- **Approximate computation**: error propagation and code level approximation
- **Software defined networking (SDN)**: issues and challenges in software defined networking including models
- **Concurrency**: verification and construction of concurrent programs

Course Description and Objectives

The course will discuss up-to-date research papers and brainstorm research ideas in the areas of software engineering. The main topics are listed above, but interesting papers outside of the listed topics are welcomed. Each week, we will present and discuss a paper selected from the top tier conferences such as ICSE, FSE, OOPSLA, ECOOP and PLDI.

Students who are looking for research topics or wish to improve their background on programming languages, program analysis, testing, software quality and software engineering are encouraged to join in the class.

Evaluation

Students can sign up for 1 credit, the evaluation will be based on attendance and the participations of the discussion in class. If interested, further development on the research ideas can lead to 3 credit.

Academic Dishonesty: [Academic Honesty]