CSE 430: Research Topics in Computer Networks

Course Information

Time and location: M/W 11:00am – 12:15pm, ITEB 125

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Instructor: Office: ITEB 267
Phone: (860) 486-8951

Instructor office hours: M/W 2:00pm – 3:00pm or by appointment

Class online: Check WebCT (http://webct.uconn.edu)

Course Description

This graduate level course covers several hot topics in networking research such as overlay networks, peer-to-peer networks, and wireless sensor networks. It will help graduate students understand the design challenges, current approaches and possible future directions on these topics. It aims at introducing graduate students to research, and exploit potential areas for MS comprehensive projects or PhD research directions.

To achieve the goal, this course is divided into two parts. In the first part, some basic concepts and principles in multimedia networking and wireless & mobile networking will be introduced (in lecture format), as will prepare students for the advanced topics. In the second part, some research topics in overlay networks, peer-to-peer networks, and wireless sensor networks will be discussed. This second part has a seminar style: each student is supposed to read research papers and give presentations. In-class discussions and peer-critiques are especially encouraged. Along the course, there are term projects. Students can form groups in 2-3 persons and choose projects, which can be of a taste of implementation, simulation, measurement, or even literature survey.

Course Prerequisites

- CSE245, or CSE330, or equivalent

List of Topics

- TCP/IP Review
- Multimedia Networking
- Wireless and Mobile Networking
- Overlay and Peer-to-Peer Networks
- Wireless Sensor Networks
Suggested Textbook

- Research papers posted on WebCT  (http://webct.uconn.edu).

Other References


Grading

There will be 5 required paper reviews, 2-3 in-class quizzes, one in-class midterm exam (in March), one class presentation, and one term project.

The final course grade will be computed as follows:

- In-class quizzes: 5%
- Class participation: 5%
- Class presentation: 10%
- Paper reviews: 15%
- Mid-term exam: 20%
- Term project: 45% (5% proposal, 10% progress report, 15% presentation, and 15% final report)

Paper Reviews

The objective of paper reviews is to help the graduate students develop some basic networking research skills and explore some interesting research topics in networking. We will have 5 paper reviews. Before each class, a graduate student should read the required paper and prepare a (approximately) one to two-page long written critique for the paper. Requirements and submission instructions will be posted separately. Note that paper review can be done in a small group (with at most two students). It is recommended that two students form a study group so that you can discuss with each other and write a good paper critique. Note that your paper review partner is not necessarily the same as your term project partner.
Late Policy

Paper reviews and term projects must be turned in before the specified due date and time. Late paper reviews and projects will NOT be accepted.

Academic Integrity

We will follow the University Policy on Academic Integrity regarding any cheating and plagiarism. Take the time to familiarize yourself with the contents of this page, as you are responsible for its contents.