Advanced Topics in Mobile Communications (AToMiC) Course Introduction

Prof. Dr. Xiaoming Fu (fu@cs.uni-goettingen.de)

Computer Networks Group
Institute of Computer Science
Georg-August-Universität Göttingen

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Outline

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Objectives

- Basic concepts: Gain experience in **Reading**, **Writing** and **Presenting** research ideas in English
- Learn knowledge about new and emerging research topics and technologies in mobile networking and wireless networks
- Organize discussions and exchange research ideas/experiences between students and researchers

What we plan to do?

- It's research-oriented. Therefore, the main focus will be paper reading and technique discussions.
- It's *Seminar*, so we will.....*Discuss*, *Discuss* and *Discuss* with prepared reading materials
- Every session, we discuss one paper
- Each participant prepares a review of the paper
- Final formal discussions in July (formal presentations, Q&A)
- Final report in August

How to evaluate?

- Part I: Session participation (50%)
  - paper review (20%)
  - attendance (10%)
  - session discussion (20%)
- Part II: Final presentation (25%)
- Part III: Final report (25%)

Outline

Schedule

09.04	Session 0
16.04	Session 1
23.04	Session 2
30.04	Session 3
07.05	Session 3
14.05	canceled
21.05	Session 4
28.05	Session 5
04.06	Session 6: announce paper list
11.06	Session 7: paper selection for final presentations
18.06	canceled
25.06	Session 8
02.07	Session 9: submission of slides for final presentations
09.07	Final presentation I
16.07	Final presentation II
31.08	Final report deadline

Seminar Topics

- Social Network Analysis Techniques
- Mobile Social Overlay/Middleware
- Delay Tolerant and Opportunistic Networks (DTN)
- Internet of Things
- Security and Privacy
- ...

Outline

Before the seminar (I): Read a Paper

- Rough round:
  - Read: abstract, introduction, conclusion and first paragraph of the main work
  - Check points: problem statement and rough main idea
- Read in depth:
  - Addressed Problem: a critical or trivial issue?
  - Solution: challenge/verify the credibility of the idea: do the assumption, method, statistics and conclusion sound?
  - Evaluation: experiment or simulation? extensive and sufficient results?

Before the seminar (II): Write a Review

- Summary of the paper
- Strength and weakness of the paper: Please detail the reasons!!
  - Convincing problem statement? A critical issue?
  - Limited novelty or new idea?
  - Solution/Method:
    - i assumption
    - ii deployment
    - iii scalability
    - iv protocol overhead
    - v efficiency
    - vi ...
  - Evaluation
    - i benchmark
    - ii performance metric
    - iii simulation/experiment setup
    - iv Convincing results?
  - Writing: well structured? easy to understand?
- Future work (optional)

During the Seminar

- Lecturer will publish a summary of all participants' reviews, including 5 parts:
    - problem statement
    - method
    - evaluation
    - writing
    - future work
- All the comments are discussed by all the participants.
- The review is provided anonymously
    - so just express your opinions in your review
    - don't worry if you will be criticized with your review

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Final Presentation

- Paper list will be provided before 4 June
- Select a paper in the list before 11 June
- Deadline of submitting slides: 2 July
- Duration: 25-30 minute presentation + 10 minute discussion
- Tips for preparing slides
    - 15-20 pages, BSc/MSc. thesis format
    - Correct citation of others' work (figure, sentence, argument, idea, ...)
    - Get your audiences to quickly understand the idea of the paper
    - Animations, figures and tables are better than wordy sentences
    - Use example to explain complicated algorithms
    - Short sentences
    - Avoid complicated equations
    - Summary of the paper: thinking/justification of the paper in your own words (Bonus)

Outline

Final Report

- Deadline: 31 August
- Objective
    - review the paper and investigate this research field
- A scientific paper including
    - Summary of the selected paper: method and evaluation results
    - Discussion of the paper

Format

- Title
- Abstract: a broad overview of the report, end with a short statement of the major results of your investigation
- Introduction: expands the abstract, get specific about your investigation
- Related work: unlikely invented sth completely new
- Overview of the paper: what's important idea of the paper? Bring your reader to the method
- Main results of the paper
- Discussion of the paper: give your opinion on the paper
- Future thoughts along the direction