

EECS6413 Information Networks

Project Description

The most important learning component of the class consists of a substantial course project. The project will offer you an opportunity to develop a quantitative and qualitative intuition of network analysis methods and algorithms, and to obtain practical experience working with software and tools for large-scale social and information network analysis. This can prepare you for applying state-of-the-art network analysis and algorithms in real-world settings and data. If you are interested in research, it will also equip you with necessary skills and knowledge to perform network science research.

There can be *three types* of course projects:

- **Type I:** Experimental evaluation of algorithms and models on an interesting dataset.
- **Type II:** A theoretical project that considers a model, an algorithm or a network property (measure) and derives a rigorous result about it.
- **Type III:** An efficient implementation of an algorithm that can scale to massive graphs.

Ideally, projects will be a combination of the three types of projects outlined above. All project should contain some experimentation on real or synthetic data, and some amount of mathematical analysis.

Projects will be evaluated based on:

- *Significance/Novelty.* Is the problem “real” and “interesting”, or just a “toy” problem? How original, important and well defined are the questions posed? How novel is the approach? Is the work likely to be useful and/or have impact? Are there any novel/interesting applications of the problem and/or algorithms?
- *Technical Quality.* Is the approach and the methods appropriate and well described? Are sufficient details provided? Is the technical material correct? Are the proposed algorithms or applications creative and interesting? Are the methods and algorithms reproducible? Is the interpretation (discussion and conclusion) well balanced and supported by the data?
- *Organization:* Is the report well organized? Is the write-up clear and the language adequate? Are results presented in the most appropriate manner? Are figures and tables used appropriately?

Project Deliverables

The table below presents the breakdown of the project deliverables, weights and due dates.

Project Deliverables	Weight	Due Date
Proposal (~2 pages)	20%	Fri, Feb 10
Milestone report (~5 pages)	20%	Fri, Mar 10
Final report (~7 pages)	50%	Fri, Mar 31
Final presentation	10%	Tue, Apr 4

Datasets

Check the course website, under resources.

Software Tools and Libraries

Check the course website, under resources.