

Fall 2017 Mobile Social Networks

- **Instructors:** [Chih-Ya Shen](#) (National Tsing Hua University), [Yuh-Jong Hu](#) (National Chengchi University), [Tung-Wei Kuo](#) (National Chengchi University), [Hong-Han Shuai](#) (National Chiao Tung University), [Yi-Ling Chen](#) (National Taiwan University of Science and Technology)
- **Coordinator:** Chih-Ya Shen (National Tsing Hua University)
- **Time:** Mondays 14:00 - 17:00 p.m.
- **Location:** N107, IIS or R601, Delta Building
- **Office Hour:** By appointment
- **TA:** Sachit Mahajan (sachitmahajan90 at gmail.com)
- **TA Office Hour:** By appointment

Course Description

Mobile Social Networks is an emerging and exciting new research area, and the course will consist of the presentations in four directions:

1. *Introduction on Mobile Social Networks*
2. *Random Graphs and Small World Properties*
3. *Privacy and Security Issues in Mobile Social Networks*
4. *User Information Inference, Influence Maximization, and Other Related Applications*

In addition to presentations given by the lecturers, students will also work on a term project on mobile social networks.

Textbook:

"Mobile Social Networking: An Innovative Approach," A. Chin and D. Zhang (Eds), Springer. Available at the libraries at National Tsing Hua University and National Cheng Chi University.

References:

Related papers that can be found in ACM Digital Library, IEEE Xplore, or other online databases.

Teaching Methods:

- *Presentations done by lecturers*
 - *Student presentations*
 - *Discussion*
 - *Tutorials of Programming Packages*
 - *Term project*
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Syllabus:

Tentative detailed topics to cover are:

1. *Socially Aware Computing: Concepts, Technologies, and Practices*
 2. *Ephemeral Social Networks*
 3. *Random Graphs in Social Networks*
 4. *Small World Properties*
 5. *Security and Privacy Issues in Mobile Social Networks*
 6. *Secured Machine Learning*
 7. *User-related Inference in Mobile Social Networks*
 8. *Link Prediction and Influence Maximization*
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Grading:

- *Assignments: $15\% * 5 = 75\%$*
- *Term Project 25%*

Schedule:

Week	Topics	Lecturer	Note
2017/09/11	Introduction to Mobile Social Networks	Chih-Ya Shen	@ NTHU
2017/09/18	Socially Aware Computing: Concepts, Technologies, and Practices	Chih-Ya Shen	@ NTHU
2017/09/25	Rescheduled to Oct 06_No Class	No Class	No Class
2017/10/02	Modeling Social Networks: Random Graphs and Preliminaries	Tung-Wei Kuo	@ AS
2017/10/06	Introduction to Machine Learning Approaches for Mobile Social Networks	Chih-Ya Shen	@ AS, O108
2017/10/09	National Day of the Republic of China _ No Class	No Class	No Class
2017/10/16	Properties of Random Graphs	Tung-Wei Kuo	@ AS
2017/10/23	Small World Properties	Tung-Wei Kuo	@ AS
2017/10/30	Security and Privacy of Big Social Media Data Analytics in the Multi-Tenant Public Cloud	Yuh-Jong Hu	@ AS
2017/11/06	Secured Machine Learning from Fully (or somewhat) Homomorphic Encryption Viewpoint	Yuh-Jong Hu	@ AS
2017/11/13	Secured Machine Learning from Differential Privacy Viewpoint	Yuh-Jong Hu	@ AS
2017/11/20	Approaches and Applications of Link Prediction in Social Networks	Yi-Ling Chen	@ CITI 124, AS
2017/11/27	User Sequential Action Prediction via Machine Learning	Hong-Han Shuai	@NTHU
2017/12/04	Graph Feature Extraction with Embedding Model	Hong-Han Shuai	@NTHU
2017/12/11	User Profiling via Machine Learning and Dimension Reduction	Hong-Han Shuai	@ NTHU Final Project Proposal Due
2017/12/18	Social Network Diffusion Models and Social Influence Maximization	Yi-Ling Chen	@ IIS, N107, AS
2017/12/25	Recommendations in Social Networks	Yi-Ling Chen	@ IIS, N107, AS
2018/01/01	New Year	No Class	No Class
2018/01/08	Final Project Presentation/Report		@ IIS, N107, AS
2018/01/15	TBA	TBA	TBA