

TIGP SNHCC 2025 Fall Syllabus

Introduction to Social Networks (SN)

Place: Room 107, New Building, IIS, AS / Google Meet

Time: 14:00-17:00 Tuesdays

Chair: Dr. Tung-Wei Kuo

Outline: The objective of this course is to assist students to understand the major concepts involved in social network analysis. Through lectures and lab assignments, students can obtain the ability to conduct research studies related to social networks. The subjects in this course are divided into the following themes:

- Introduction to graph theory
- Graph analysis: community detection, and graph embedding
- Social network analysis: link prediction and privacy in social networks
- User profiling and recommendation systems in social networks
- Text mining and analysis in social networks

References:

- Social Network Data Analytics, Charu C. Aggarwal (Ed.), Springer 2011
- Data Mining: Concepts and Techniques, J. Han, M. Kamber, and J. Pei, 3rd edition, Morgan Kaufmann, 2011.
- Introduction to Data Mining, P.N. Tan, M. Steinbach, and V. Kumar, Addison Wesley, 2006.

TA: Office hours: by appointment

Grades: Exam 40%; Homework 40%; Paper Presentation 20%

For the most updated syllabus, please visit <https://tigpsnhcc.iis.sinica.edu.tw/course.html#s1>

Week	Date	Topics/Brief Description	Lecturers
1	2025/09/02	Class Introduction + Overview of DM	Tung-Wei Kuo
2	2025/09/09	Introduction to Graph Theory (I)	Tung-Wei Kuo
3	2025/09/16	Introduction to Graph Theory (II)	Tung-Wei Kuo
4	2025/09/23@108	Social network analytics	Tung-Wei Kuo
5	2025/09/30	Social Network Paper Presentation (I)	Tung-Wei Kuo
6	2025/10/07	Link Prediction	De-Nian Yang
7	2025/10/14	Privacy in Social Networks	De-Nian Yang
8	2025/10/21	Text Mining in Social Networks	De-Nian Yang
9	2025/10/28	Lab1: Social Network	De-Nian Yang
10	2025/11/04	Social Network Paper Presentation (II)	Tung-Wei Kuo
11	2025/11/11	Data Science Applications (I)	Chih-Ya Shen
12	2025/11/18	Data Science Applications (II)	Chih-Ya Shen
13	2025/11/25	Data Science Applications (III)	Chih-Ya Shen
14	2025/12/02	Lab2: Python Tools for Data Science Applications	Chih-Ya Shen
15	2025/12/09	Review Week	-----
16	2025/12/16	Final Exam	-----