

FEIYAN MA

mafy21@mails.tsinghua.edu.cn \diamond Personal Website

EDUCATION

Tsinghua University
Undergraduate at Weiyang College
Major in Mathematics and Physics

Sep. 2021 - Jun. 2026 (expected)
Overall GPA: 3.88/4.00

SKILLS

| | |
|--------------------|---|
| Programming | R, Python, L ^A T _E X, Git |
| Language | Chinese (native), English (TOEFL 108 [R30/L26/S23/W29]), French |

PUBLICATIONS & MANUSCRIPTS

(indicates equal contribution.)*

(**Manuscript**) Xinyuan Fan*, Feiyan Ma*, Chenlei Leng, Weichi Wu. “Additive Seperable Graphon Models”. (to appear)

RESEARCH EXPERIENCE

Additive Seperable Graphon Models

Supervised by Prof. Weichi Wu

Mar 2024 - Dec 2024

DSDS, Tsinghua University

- We use the additive separable model as a parsimonious representation of the graphon, capable of generating a low-rank connection probability matrix for network data.
- We develop an efficient estimation approach that leverages subgraph counts to estimate the low-rank connection matrix and uses interpolation to recover the graphon functions, achieving the minimax optimal estimation rate. This model effectively addresses the well-known identification challenges associated with graphon functions.
- We provide the convergence rate of our method, and validate its computational efficiency and estimation accuracy through comprehensive simulation studies.

RELEVANT COURSES

Undergraduate Core Courses: Probability Theory (1) (A+), Measures and Integrals (A), Numerical Analysis (A), Basic Functional Analysis (A), Linear Regression Analysis (A-), Statistical Inference (A-), Reliability Data and Survival Analysis (A), ...

Other Relevant Courses: Abstract Algebra (A), Topology (A), Differential Geometry (A), Financial Statistics (A+), Operation Research (A), Intro to Biostatistics (A), Intro to Optimization Theory (A-), Topics in Logics (A), Advanced Topics in Linear Algebra (A-), Partial Differential Equations (ongoing), ...

Graduate-Level Courses: Advanced Mathematical Statistics I (A), Advanced Mathematical Statistics II (A-), Computational Probability (A), Probability (2) (B+), Statistical Analysis of Network Data (ongoing), Advanced Statistical Methodology (ongoing)

HONORS & AWARDS

| | |
|---|----------|
| Honorable Mention , 2024 Mathematical Contest in Modeling | Feb 2024 |
| Gold Medal , The 19th China Girls Mathematical Olympiad (CGMO) | Aug 2020 |
| First Prize , National High School Mathematics League, Shanghai Region | Sep 2020 |