Xiaole Hu

Shanghai,China xiaolehu05@gmail.com +86 19172834490

Education

Fudan University *9.2022 - present*

B.Eng. in Electronics Information Science and Technology

- **GPA:** 3.69/4.0 (Equivalent to 92/100)
- **Ranking within the college:** 9/295 (top 5%)
- **Ranking within the major:** 5/95 (about top 5%)
- **Coursework(Grade):** Machine learning, Principles of Automatic Control(A), Digital signal processing(A), Information Theory(A), Probability & Mathematical Statistics(A), Data Structure(A-), Academic English for Science and Technology(A) etc. (high motivation in mathematics)

Research Interest

Complex network, Control, Optimization, Game theory, Economics, Machine learning

Research Experience

Fudan Undergraduate Research Opportunities Program *3.2024 - present*

Supervisor: Prof. Jie Ding | Adaptive Networks and Control Lab (CAN Lab)

- Studying knowledge about control theory, optimization methods and complex networks
- Constructing the graph of the adjacency matrix in the state space equation and designing an algorithm based on minimum-cost flow to calculate the target controllability of complex networks under input constraints. The algorithm specifically addresses scenarios where inputs can only be added to a specific subset of nodes
- Conducting experiments about target controllability and robustness on generated and real-life networks
- Drafting the manuscript, which is expected to be submitted to a journal later

Publications:

Target Controllability of Complex Networks Based on Greedy Optimization, 3^{rd} **Author**

Under review (2^{nd} *round) | IEEE Transactions on Control of Network Systems*

A Unified Framework for Target Controllability of Complex Networks with Input Constraints, 1^{st} **Author**

To be submitted

Competitions and Projects

China National Undergraduate Electronic Design Contest *8.2024*

- Designing an automatic chess playing device with Cross xy machine, open MV, Arduino UNO, Esp 32 etc. within 4 days

China Undergraduate Mathematical Contest in Modeling *9.2024*

- Using statistical knowledge, Monte Carlo simulation, and MATLAB to construct a model of decision-making problems in production and analyzing the efficiency of the model

Sentiment Analysis on IMDB Reviews *11.2024*

- Constructing and training different neural networks to analyze sentiment of movie reviews in IMDB dataset and analyzing the efficiency of each model

Skill Set

Languages: C, Matlab, Python, ASM, Latex

Technologies: Pytorch, NetworkX

Achievements

- Third prize in Shanghai Division in National Undergraduate Electronic Design Contest
- Third prize in Shanghai Division in National Undergraduate Mathematical Contest in Modelling
- Scholarship for Undergraduate Outstanding in Fudan University
- 2025 Fudan University Fumei Overseas Exchange Scholarship (¥15,000)