

# Xiaole Hu

📍 Shanghai, China    ✉ xiaolehu05@gmail.com    ☎ +86 19172834490

## Education

### Fudan University

9.2022 - present

*B.Eng. in Electronic Information Science and Technology*

- **GPA:** 3.71/4.0 (Equivalent to 93/100)
- **Ranking within the college:** 12/295 (top 5%)
- **Ranking within the major:** 7/95 (top 10%)
- **Coursework(Grade):** Machine learning, Network Science(A), Principles of Automatic Control(A), Digital signal processing(A), Digital image processing(A), Information Theory(A), Probability & Mathematical Statistics(A), Data Structure(A-), Academic English for Science and Technology(A), Computer Architecture(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 - 6.2025

*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.

### Summer Research Internship at KTH

6.2025 - 9.2025(expected)

*Supervisor: Prof. Qianwen Xu* [🔗](#) | *Intelligent Sustainable Grid Lab (ISG Lab)* [🔗](#)

- Studying knowledge about energy trading, optimal control and reinforcement learning.
- Designing and implementing an end-to-end encrypted local energy trading platform(from frontend to backend).
- Drafting the manuscript, which is expected to be submitted to a journal later.

## Publications:

### Journal Articles:

- Ding, J., Zhuo, Y., **Hu, X.**, Zhao, Y., Li, C., & Li, X. (2025). Target Controllability of Complex Networks Based on Greedy Optimization. *IEEE Transactions on Control of Network Systems*.

### Working Papers:

- A Unified Framework for Target Controllability of Complex Networks under Input Constraints.

## 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)