# Tao Ma


**Contact information**

xiaobaobaochifan.github.io
t.ma9@lse.ac.uk
linkedin.com/in/tao-ma-93642013a
github.com/xiaobaobaochifan


**Education**

**London School of Economics and Political Science (LSE)** Sep 2021 – Aug 2025
Ph.D. Candidate in Statistics (Data Science Group) London
Advisor: Prof. Zoltán Szabó

**New York University (NYU) | Courant Institute** Sep 2016 – Aug 2018
Master of Science in Mathematics New York
GPA 3.81/4.00 (Top 5) | Passed the Ph.D. Written Qualification Exam

**Hong Kong Baptist University (HKBU)** Sep 2012 – Aug 2016
Bachelor of Science in Statistics and Operations Research (Science Elite Program) Hong Kong
GPA 3.87/4.00 (Rank 1/61 in the Math Department)

**Research Interests**

- Theory & methodology: reinforcement learning, large language models, deep generative models.
- Trustworthy & interpretable AI: sustainability, sparse autoencoders, offline learning, causality.
- AI applications & behaviours: supply chains, robotics, persuasion, forecasting, policy, social risks.

**Publications and Preprints**

**Ma, T.**, Zhu, J., Cai, H., Qi, Z., Chen, Y., Shi, C., & Laber, E. B. (2025). Sequential Knockoffs for Variable Selection in Reinforcement Learning.

Schoenegger, P., ..., **Ma, T.**, et al. (2025). Large Language Models Are More Persuasive Than Incentivized Human Persuaders.

Team. (2025). Efficient Training of Sparse Autoencoders for Large Language Models via Layer Groups. **EMNLP**.

**Ma, T.**, Yang, X., & Szabó, Z. (2025). To Switch or not to Switch? Balanced Policy Switching in Offline Reinforcement Learning.

**Ma, T.**, & Yang, X. (2024). A Framework for Policy Evaluation Enhancement by Diffusion Models. Tiny Papers **ICLR**.

**Selected achievements**

- LSE PhD Studentship 2021 – 2025
- LSE Class Teacher Award 2022 – 2023
- Best Teaching Assistant Award (HKUST) 2019 – 2020
- HKSAR Government Scholarship (highest honor for undergraduates in Hong Kong) 2013 – 2016
- Outstanding Student Award (7/4134, by The Baptist Convention of Hong Kong) 2015 – 2016
- Scholastic Award 2015 – 2016
- APEC Scholarship (by Asia Pacific Economic Cooperation) 2014 – 2016
- Best Debater prize at The World Mandarin Debating Championship, Hong Kong 2015 – 2016
- Summer Undergraduate Research Fellowship 2014 – 2015
- Mr. Li Men Jan Prize in Mathematics 2014 – 2015
- Department of Mathematics Outstanding Academic Performance Award 2013 – 2014
- Sir Tseng Chi Lu Scholarship 2013 – 2014
- President's Honour Roll 2012 – 2016

**Skills**

Python, R, SAS, MATLAB, LaTeX, HTML, CSS, JavaScript, Bash, PyTorch, Jupyter Notebook, VS Code, Linux, Git, Google Cloud Platform, local high-performance computing management

## Academic Service

**LSE Statistics Research Showcase** Apr 2025
*Session Chair*

**Neural Information Processing Systems (NeurIPS)** May – Sep 2024 & 2025
*Reviewer*

**International Conference on Machine Learning (ICML)** Feb 2025 – May 2025
*Reviewer*

**International Conference on AI and Statistics (AISTATS)** Sep – Jan 2024 – 2026
*Reviewer*

**International Conference on Learning Representations (ICLR)** Sep – Jan 2024 – 2026
*Reviewer*

**London School of Economics and Political Science** London
*Committee member*

- Department Review Representative 2024
- Department Teaching Committee 2023 – 2025
- Department Moving Plan Committee 2023 – 2025

## Academic Experience

**London School of Economics and Political Science** Sep 2021 – Present
Class Teacher/Teaching Assistant London

- **Undergraduate courses**:
  - ST101 Programming for Data Science (Python) Sep 2022 – Dec 2024
    NumPy, Pandas, testing, object-oriented programming, functional programming
  - ST107 Quantitative Methods Jan 2022 – May 2022
    Introductory statistics for students in social science
  - ST102/109/110 Elementary Statistical Theory Sep 2022 – May 2025
    One-year course in probability and statistics
- **Graduate courses**:
  - ST445 Managing & Visualizing Data (Python) Sep 2021 – Dec 2021
    Pandas, BeautifulSoup, Sklearn, Jupyter Notebook

**Hong Kong University of Science and Technology (HKUST)** Oct 2018 – Nov 2019
Research Assistant Hong Kong

- Topics: mathematical physics, partial differential equations and signal processing of robots

Class teacher Hong Kong

- MATH 2011 Introduction to Multivariable Calculus

**New York University** Sep 2017 – Dec 2017
Recitation Leader New York

- MATH-UA 211 Mathematics for Economics

## Industrial Experience

**Bank of China** Dec 2014 – Jan 2015
Internship – Corporate Banking and Financial Institute Hong Kong

## Other Professional Experience

**University Mandarin Debate Team** Sep 2012 – Aug 2016
President, coach Hong Kong

- Organized weekly training sessions, managed administrative tasks, participated in international competitions and gave 3-round interviews to around 100 applicants each year.

**Professional Swimming** 2004 – 2009
Individual Medley (200 meters), Breaststroke (100 meters), Butterfly Stroke (100 meters) Beijing

## Invited Talks

Balanced Policy Switching in Reinforcement Learning. May 2025
Workshop at Representing, calibrating & leveraging prediction uncertainty from statistics to machine learning, Isaac Newton Institute & University of Cambridge, UK.

Balanced Policy Switching in Reinforcement Learning. April 2025
Statistics Research Showcase, LSE, UK.

Careers in Data Science and AI. February 2024
The Alan Turing Institute & The Brilliant Club, UK.

Sequential Knockoffs for Variable Selection in Reinforcement Learning. May 2023
PhD Presentation Events, LSE, UK.

Sequential Knockoffs for Variable Selection in Reinforcement Learning. April 2023
Prof. Tengyao Wang's Reading Group, LSE, UK.

Sequential Knockoffs for Variable Selection in Reinforcement Learning. March 2023
Prof. Qiwei Yao's Reading Group, LSE, UK.

Sequential Knockoffs for Variable Selection in Reinforcement Learning. February 2023
RL+X Online Seminar.

Reinforcement Learning with Representation Learning. October 2022
LSE PhD Reading Group, UK.

Nonstationarity in a Markov Decision Process. June 2022
RL+X Online Seminar.

Sequential Knockoffs for Variable Selection in Reinforcement Learning. June 2022
Research Showcase (Poster Section), LSE, UK.

## Languages

Mandarin (native), English (fluent), Cantonese (fluent)

## Games

Poker, Mahjong, Pokémon, Mario, Kirby, Dragon Ball, NBA 2K, Asphalt, FIFA, Horizon 4, Zelda, GTA 5, Overcooked and a lot of others