

Hongtao Ma

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Nanjing, JiangSu Province - 210005, China

EDUCATION

- **Johns Hopkins University** September 2025 - July 2026
Nanjing, China
Graduate Certificate in International Studies
 - Courses: Financial Crises; Econometrics; International Monetary Theory and Policy.etc
- **Beijing International Studies University** September 2020 - July 2025
Beijing, China
Bachelor of Economics — Dual major in Economics and Politics
 - Grade: 88.29/100
 - Courses: Microeconomics 91/100 ; Macroeconomics 93/100, Monetary Economics 87/100, International Finance 89/100
- **Peking University** September 2023 - July 2025
Beijing, China
Minor of Economics (Full-time joint study with BISU)
 - Courses: Intermediate Microeconomics/Macroeconomics 90+, Applied Micro-econometrics 84, Advanced Research Seminar (Honor) 92

MY PROJECTS

- **Project A: Advanced Research Seminar (Honor)** April 2024
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Tools: Python, R, Matlab
 - **Research Topic:** Multi-Model Predictive Analysis of Realized Volatility Using the Garman–Klass Estimator
 - **Coursework Outcome:** Academic Poster & [Code](#)
- **Project B: Explainable EEG Network Analysis for Alzheimer's Disease Detection** Year 2025
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Tools: Python, XGBoost, Network Analysis
 - **Research Topic:** Utilized the UCI EEG Alzheimer's dataset to construct node-level brain network features and applied XGBoost to detect Alzheimer's disease and analyze the relationship between brain regions and disease status.
 - **Coursework Outcome:** Rmarkdown report [PDF](#) & [Code](#)
- **Project C: MovieLens Recommendation System** Year 2025
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Tools: R, Machine Learning
 - **Research Topic:** Built a movie recommendation system using the MovieLens 10M dataset, applying machine learning techniques to accurately predict user movie ratings.
 - **Coursework Outcome:** Rmarkdown report [PDF](#) & [Code](#)

RESEARCH EXPERIENCE

- **Experience A: Peking University, Undergraduate Research Training Program** Jun 2023 - Nov 2024
Tools: STATA
 - **Research Topic:** China's local government implicit debt, Fiscal Decentralization and Development of China fiscal theory
 - **Supervisor:** Dr. Yang Yao, Director of China Center for Economic Research
 - **Funding:** Peking University - President's Fund
- **Experience B: Peking University - Research Assistant in Urban Economics** June 2024 - July 2025
Tools: Python, QGIS
 - **Supervisor:** Cong Peng Assistant Profosser, Peking University
 - **Responsible for data cleaning and analysis** for the project "Generation and Application of Economic Alternatives in Data-Scarce Regions"
 - **Responsible for cleaning and preparing data** related to the study of forest resources and carbon emission pathways.

PUBLICATIONS

C=CONFERENCE, J=JOURNAL, P=PATENT, S=IN SUBMISSION, T=THESIS

- [J.1] Ma, H., Gao, Y., & Zhou, Z. (2025). **Three-Dimensional UAV Path Planning in Urban Environments Based on an Improved Parrot Optimization Algorithm.** *Information Technology and Control*, Vol. 54, Issue 3, pp. 821–843. DOI: 10.5755/j01.itc.54.3.41351
- [J.2] Yi, W., Cai, X., Ma, H., Fu, Z., & Zhan, Y. (2025). **A Library-Oriented Large Language Model Approach to Cross-Lingual and Cross-Modal Document Retrieval.** *Electronics*, Vol. 14, Issue 15, pp. 3145. DOI: 10.3390/electronics14153145
- [J.3] Li, R., Yu, B., Zhang, B., Ma, H., Qin, Y., Lv, X., & Yan, S. (2025). **Lightweight CNN–Transformer Hybrid Network with Contrastive Learning for Few-Shot Noxious Weed Recognition.** *Horticulturae*, Vol. 11, Issue 10, pp. 1236. DOI: 10.3390/horticulturae11101236
- [J.4] Zhu, Y., Zhu, Y., Ma, H., Li, B., Xiao, L., Wu, X., & Li, M. (2025). **Enhancing Boundary Precision and Long-Range Dependency Modeling in Medical Imaging via Unified Attention Framework.** *Electronics*, Vol. 14, Issue 21, pp. 4335. DOI: 10.3390/electronics14214335

HONORS AND AWARDS

- **Headmaster Scholarship** 2025 Awarded
University-level
 - Top 10 students elected annually, Value 10000 RMB.
- **Second Class Academic Excellence Scholarship.etc** 2021–2025 Awarded
University-level
- **Wutong Scholarship** 2021-2022 Awarded
University-level
- **2024 Asia-Pacific Mathematical Modeling Competition (Chinese Division)** 2024 Awarded
Second Class International-level
- **2024 Asia-Pacific Mathematical Modeling Competition (English Division)** 2024 Awarded
Third Class International-level

SKILLS

- **Programming Languages:** Python, Matlab, R, Stata
- **Mathematical & Statistical Tools:** Statistics92, Calculus 82, Linear Algebra 81, Probability Theory 82
- **Other Tools & Technologies:** QGIS, ArcGIS

LEADERSHIP EXPERIENCE

- **Director, Jingshuang Student Union, Peking University** Sep 2022 – Jul 2024
Liaison Department National School of Development [🌐]
 - Represented the Student Union in negotiating internship agreements with **Guosen Securities**, organizing lectures and mock interviews for **40+ students**, and securing **10 internship positions**
 - Led and organized corporate and institutional visits to **Lenovo Group**, **Meituan**, **CCG Think Tank**, and the **Asian Infrastructure Investment Bank (AIIB)**, engaging **150+ participants** in total
 - Organized large-scale career development initiatives, including an overseas application sharing session (**100+ participants**) and a secondary market employment workshop (**80+ participants**)

VOLUNTEER EXPERIENCE

- **Beijing 2022 Winter Olympic and Paralympic Games** Jan 2022 – Mar 2022
Assistant, External Liaison Department (Team Germany) [🌐]
 - Appointed as Assistant to **Team Germany**, supporting official delegation operations for the Beijing 2022 Winter Olympic and Paralympic Games
 - Organized and accompanied the German delegation during major events, including **opening and closing ceremonies** and **award ceremonies**, ensuring smooth coordination and protocol compliance
 - Provided on-site **logistics coordination**, **transportation scheduling**, and **bilingual translation support**, and assisted in receiving high-level guests, including **IOC President Thomas Bach**

ADDITIONAL INFORMATION

- **Languages:** Chinese (Native level), English (Proficiency level)
- **Interests:** Economics, International Politics, History