Yingrong Mao

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EDUCATION

University of Chicago, Chicago, IL Expected Graduation: June 2026
Master of Arts, Computational Social Science *GPA: 3.96*
Enrolled Sept. 2023 – Present (on full-time pre-doctoral research leave since Mar. 2025)

New York University & NYU Shanghai Graduated Jan. 2023
Bachelor of Science, Double Major in Data Science & Social Science *GPA: 3.63*

Selected Courses: Machine Learning, Data Management and Analysis, Probability and Statistics, Computational Modeling, Large-Scale Computing, Large-Scale Data Mining for Social and Cultural Knowledge Discovery.

WORKING PAPERS

- *Academic Simulacra: Forecasting Research Ideas through Multi-Agent LLM Simulations*
  Jiwoong Choi*, **Yingrong Mao***, Donghyun Kang, and James Evans (*equal contribution)
- *Language Models Surface the Unwritten Code of Science and Society* Link
  Honglin Bao, Siyang Wu*, Jiwoong Choi*, **Yingrong Mao***, and James Evans (*equal contribution)
- *When Scientists Chase the Heat: Linking Topic Popularity to Research Pivot Penalty*
  Yingrong Mao (MA thesis, under supervision of Prof. Bernard Koch)

WORKS IN PROGRESS

- *Meme Adaptability and Popularity: Investigating the Evolutionary Dynamics of Internet Meme Templates*
- *The Impact of Long-Term Pivot Penalty* (with Sirag Erkol and Dashun Wang)

CONFERENCES & PRESENTATIONS

- *Meme Adaptability and Popularity: Investigating the Evolutionary Dynamics of Internet Meme Templates*, parallel session, International Conference on Computational Social Science (IC2S2), Norrköping, Sweden, 2025
- *Academic Simulacra: Forecasting Research Ideas through Multi-Agent LLM Simulations*, International Conference on the Science of Science and Innovation (ICSSI), poster, Copenhagen, Denmark, 2025
- *Meme Adaptability and Popularity: Investigating the Evolutionary Dynamics of Internet Meme Templates*, Computational Social Science Student Poster Session, poster, The University of Chicago, Chicago, 2024

FELLOWSHIPS & AWARDS

- Visiting Predoctoral Fellowship, Kellogg School of Management, Northwestern University 2025 – 2026
- Maroon Research Scholarship (Merit) – $50,000, University of Chicago, Division of Social Scienc 2023 – 2025
- New York University Dean's Undergraduate Research Fund – ¥7000 2022

RESEARCH EXPERIENCE

Visiting Pre-Doctoral Research Fellow April 2025 – Present
The Center for Science of Science & Innovation (PI: Prof. Dashun Wang), Northwestern University, Evanston, IL

- Conducted large-scale computational analyses of the research pivot penalty, replicating and extending prior studies using Dimensions data.
- Investigated the short-term vs. long-term dynamics of pivot penalties across domains (science, art, and film), examining author roles, team composition, and career trajectories.
- Calculated pivot size for new research direction on success-failure pivots.

Research Affiliate Sept. 2024 – Present
Knowledge Lab (PI: Prof. James Evans), The University of Chicago, Chicago, IL

- Collaborated with PhD students and postdoc fellows on two research projects—"Academic Simulacra: Forecasting Research Ideas through Multi-Agent LLM Simulations" and "Language Models Surface the Unwritten Code of Science and Society".

- Participated in weekly lab meetings and computational social science workshops to exchange feedback on ongoing research.

Research Assistant (Supervisor: Prof. Bernard Koch) Dec. 2024 – Mar. 2025
Social Science Division, The University of Chicago, Chicago, IL
- Collected, cleaned, and analyzed large-scale Reddit data to examine the diffusion of scientific and non-academic content across online communities, supporting subsequent modeling of knowledge flow patterns.
- Developed automated workflows using APIs to perform sentiment.

Research Assistant (Supervisor: Prof. Matteo Tranchero) Jul. 2024 – Dec. 2024
Data Innovation Lab, University of California, Berkeley (remote)
- Designed and implemented a simulation model based on the NK fitness landscape to emulate technological invention and scientific discovery, using Python for model construction, analysis, and visualization.
- Conducted large-scale data cleaning and integration of PubMed datasets to prepare empirical data for subsequent analysis.

Independent Researcher (Supervisor: Prof. Alex Barnard) June 2022 – Sept. 2022
NYU Deans' Undergraduate Research Program, New York University, New York
- Awarded the Dean's Undergraduate Research Fund (¥7,000) to conduct an independent study on Chan (Zen) meditation communities in New York.
- Conducted field observations across three meditation centers and led **six in-depth interviews** with organizers and practitioners.
- Aalyzed qualitative data to explore the relationship between collective practice, spirituality, and community formation.

ACTIVITIES & SERVICE

- Reviewer, ACM Collective Intelligence, 2025
- Finalist (Top 20 / 295 Teams), *AgentSociety Challenge (The Web of Conference 2025)* — LLM multi-agent simulation competition

INDUSTRY EXPERIENCE

Yuanyuzhou Ventures | Shanghai, China Jan. 2021 – July 2021
Analyst Intern
- Monitored and analyzed blockchain on-chain transaction data and visualized market.
- Conducted financial modeling and due diligence for 10+ projects; produced analytical investment reports.

Seed Talent Program | Shanghai, China June 2021 – Oct 2021
Assistant Director & Project Manager
- Co-led recruitment (60+ interviews) and managed a team of 30+ students.
- Organized events and operational logistics, including the 15th cohort graduation ceremony.

China Financial Information Center | Shanghai, China July 2020 – Sept. 2020
Project Intern
- Edited and published 200+ financial articles on platforms such as *Toutiao* and *East Money*.
- Supported business conferences and produced post-event analytical summaries.

B Corporation | Shanghai, China Mar. 2019 – May 2019
Group Manager
- Collected and analyzed organizational data for "724 Planet," an NGO incubator.
- Evaluated its corporate social impact and sustainability metrics for B Corp certification.

SKILLS & COMPETENCIES

- Computational Methods: Network Analysis, Agent-Based Modeling, Statistical Inference, Natural Language Processing, Machine Learning, LLM-Based Analysis
- Programming: Python, R, SQL, HPC (Slurm), AWS (EC2, S3), Git
- Languages: Chinese (native, English (fluent)