

# Yingrong Mao

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## EDUCATION

### University of Chicago, Chicago, IL

*Master of Arts, Computational Social Science*

Enrolled Sept. 2023 – Present (on full-time pre-doctoral research leave since Mar. 2025)

Expected Graduation: June 2026

### New York University & NYU Shanghai

*Bachelor of Science, Double Major in Data Science & Social Science*

Graduated Jan. 2023

**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

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|--|-----------|
| • Visiting Predoctoral Fellowship, Kellogg School of Management, Northwestern University             | 2025-2026 |
| • Maroon Research Scholarship (Merit) – \$50,000, University of Chicago, Division of Social Sciences | 2023-2025 |
| • New York University Deans' 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.

<b>Research Assistant</b> (Supervisor: Prof. Bernard Koch) Social Science Division, The University of Chicago, Chicago, IL	Dec. 2024 – Mar. 2025
<ul style="list-style-type: none"> <li>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.</li> <li>Developed automated workflows using APIs to perform sentiment.</li> </ul>	

<b>Research Assistant</b> (Supervisor: Prof. Matteo Tranchero) Data Innovation Lab, University of California, Berkeley (remote)	Jul. 2024 – Dec. 2024
<ul style="list-style-type: none"> <li>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.</li> <li>Conducted large-scale data cleaning and integration of PubMed datasets to prepare empirical data for subsequent analysis.</li> </ul>	

<b>Independent Researcher</b> (Supervisor: Prof. Alex Barnard) NYU Deans' Undergraduate Research Program, New York University, New York	June 2022 - Sept 2022
<ul style="list-style-type: none"> <li>Awarded the Dean's Undergraduate Research Fund (¥7,000) to conduct an independent study on Chan (Zen) meditation communities in New York.</li> <li>Conducted field observations across three meditation centers and led <b>six in-depth interviews</b> with organizers and practitioners.</li> <li>Analyzed qualitative data to explore the relationship between collective practice, spirituality, and community formation.</li> </ul>	

## ACTIVITIES & SERVICE

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

## INDUSTRY EXPERIENCE

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<b>Yuanyuzhou Ventures</b>   Shanghai, China <i>Analyst Intern</i>	Jan 2021 - July 2021
<ul style="list-style-type: none"> <li>Monitored and analyzed blockchain on-chain transaction data and visualized market.</li> <li>Conducted financial modeling and due diligence for 10+ projects; produced analytical investment reports.</li> </ul>	

<b>Seed Talent Program</b>   Shanghai, China <i>Assistant Director &amp; Project Manager</i>	June 2021 - Oct 2021
<ul style="list-style-type: none"> <li>Co-led recruitment (60+ interviews) and managed a team of 30+ students.</li> <li>Organized events and operational logistics, including the 15th cohort graduation ceremony.</li> </ul>	

<b>China Financial Information Center</b>   Shanghai, China <i>Project Intern</i>	July 2020 - Sept 2020
<ul style="list-style-type: none"> <li>Edited and published 200+ financial articles on platforms such as <i>Toutiao</i> and <i>East Money</i>.</li> <li>Supported business conferences and produced post-event analytical summaries.</li> </ul>	

<b>B Corporation</b>   Shanghai, China <i>Group Manager</i>	Mar 2019 - May 2019
<ul style="list-style-type: none"> <li>Collected and analyzed organizational data for "724 Planet," an NGO incubator.</li> <li>Evaluated its corporate social impact and sustainability metrics for B Corp certification.</li> </ul>	

## SKILLS & COMPETENCIES

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- 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: Native in Chinese and fluent in English