

EDUCATION

Hong Kong Baptist University <i>B.S.S.C. (Hons.) in Sociology, Minor in Computer Science</i>	Hong Kong SAR, China 2022–2026 (<i>Anticipated</i>)
<ul style="list-style-type: none"> • Research Interest: Large Language Model Agent, Complex System, Computational Social Science, Social Simulation, Social Stratification, Social Networks • GPA: cGPA: 3.62/4.0, Major GPA: 3.69/4.0, Minor GPA: 3.72/4.0 <i>(First Class Hons.: cGPA 3.4 or above)</i> • Relevant Coursework: Intro to AI and ML (A-) NLP and LLM (In Progress) Social Stat. (A) Intro to Python and its Applications (A-) Problem Solving Using Object Oriented Approach (A) Calc., Prob., and Stat. for CS (A-) Fundamental of Data Analysis and Management (A-) Sociological Classical Theory (A) Sociological Theory II Contemporary Approaches (A-) Social Networks (A-) 	

PUBLICATIONS

1. [Under Review] Qingbin Zeng, Ruotong Zhao, Jinzhu Mao, **Haoyang Li**, Fengli Xu[✉], & Yong Li. (2025). CrimeMind: Simulating urban crime with multi-modal LLM agents. *arXiv preprint arXiv:2506.05981*.
2. [Working Paper] **Haoyang Li**, Xiao Jia, & Zhanzhan Zhao[✉]. (2025). The emergence of altruism in Large-Language-Model agents society. *arXiv preprint arXiv:2509.22537*.
3. [Working Paper] **Haoyang Li**, Songwei Li, Xiao Liu, Bill Shi, Fengli Xu[✉], & James Evans[✉]. (2025). Dispersed knowledge, decentralized decisions: A labor market for multi-agent task allocation. *Poster presented at The 1st International Conference on AI Scientists (ICAIS 2025)*. [[View Poster](#)]
4. [Working Paper] **Haoyang Li**, Hongru Du[✉], Runzhou Liu, & Sen Pei[✉]. (2025). Mobility agents: Modeling urban human mobility patterns through theory-guided LLM agents. [[View Slides](#)]

RESEARCH EXPERIENCES

Research Intern Future Intelligence Lab, Tsinghua University & Knowledge Lab, University of Chicago	2025.03 – Present
<ul style="list-style-type: none"> • Supervised by Prof. Fengli Xu, Assistant Professor, Department of Electronic Engineering, Tsinghua University • Co-supervised by Prof. James Evans, Max Palevsky Professor, Director of Knowledge Lab, University of Chicago • <i>Interdisciplinary LLM Agents Research:</i> Co-designed LLM Agents incorporating sociological theories to simulate and analyze human mobility, social segregation, crime patterns and market mechanisms, exploring underlying social behavior • <i>In-depth Exploration of LLM Agents:</i> Investigated advanced technologies and design paradigms of LLM Agents, contributing to experimental work and co-authorship of resulting research papers 	

Research Intern Dept. of Systems and Information Engineering, University of Virginia & Pei Group, Columbia University	2025.07 – Present
<ul style="list-style-type: none"> • Supervised by Prof. Hongru Du, Assistant Professor, Department of Systems and Information Engineering, University of Virginia • Co-supervised by Prof. Sen Pei, Assistant Professor, Mailman School of Public Health, Columbia University • <i>Interdisciplinary LLM Agents Research:</i> Explored integrating social science theory-driven LLM Agents into complex urban environments for social simulation, targeting applications in human mobility and public health • Spearheaded the development of a physics-informed and sociological theory-guided LLM Agent framework for modeling urban human mobility, executing experiments, and drafting research manuscripts 	

RESEARCH EXPERIENCES

Research Assistant | School of Artificial Intelligence, The Chinese University of Hong Kong, Shenzhen 2025.07 – 2025.11

- Supervised by Prof. Zhanzhan Zhao, Joint Assistant Professor, School of Artificial Intelligence & Division of Computational Social Science, The Chinese University of Hong Kong, Shenzhen
- *Interdisciplinary LLM Agents Research:* Developed LLM-driven agent-based modeling frameworks focusing on human-like economic behaviors (e.g., cooperation, altruism) in LLMs' interactions. Led the design of agentic workflows, experimental implementation, and manuscript writing under the supervision

Research Assistant | Department of Sociology, Hong Kong Baptist University 2024.03 – 2024.06

- Supervised by Prof. Jin Jiang, Associate Professor, Department of Sociology, Hong Kong Baptist University
- *Project:* Staying in the Nest? A Study of Young Adults' Co-residence with Parents in the United Kingdom, Mainland China and Hong Kong
- *Quantitative Research:* Conducted quantitative analysis of survey on youth living arrangements, identifying key variables through literature synthesis and data organization
- Investigated socioeconomic drivers (economic resources, cultural values, life-course factors, etc.) shaping residential decision-making in young adults

SELECTED PROJECT

Term Paper on How Unequal in Social Capital Fuels Higher Education Opportunity Inequality in China

Course: SOCI 4035, *Instructor:* Prof. Jin Jiang, *Term:* 25 Spring 2025.3

- Quantitatively investigated stratifying effects of cultural capital (paternal education, leadership capital) on higher education access inequality, leveraging nationally representative CFPS 2020 data through ordinal logistic regression modeling
- Proposed evidence-based policy interventions targeting institutional barriers perpetuating educational disparities

AWARDS AND HONORS

- **President's Honor Roll**, Hong Kong Baptist University Semester 1, 2022–2023; Semester 1&2, 2023–2024; Semester 1&2, 2024–2025
- **Dean's List**, Hong Kong Baptist University Semester 2, 2022–2023
- **HKSAR Government Talent Development Scholarship**, HK\$10,000 2023.04

TALKS

- **Guest Lecture**, The Chinese University of Hong Kong, Shenzhen 2025.11
Topic: The Emergence of Altruism in LLM Society & Mobility Agents • *Venue:* AIE1901 AI Exploration I • [\[Slides\]](#)
- **Poster Presentation**, ICAIS 2025 2025.11
Title: Dispersed Knowledge, Decentralized Decisions: A Labor Market for Multi-Agent Task Allocation • *Venue:* The 1st International Conference on AI Scientists (ICAIS 2025), Beijing, China • [\[ICAIS Website\]](#) • [\[Poster\]](#)

TEACHING

- **Teaching Assistant**, Hong Kong Baptist University 2024.1-2024.4
Course: COMP1005 Essence of Computing [\[Course Outline\]](#)

SKILLS

- **Languages:** Chinese Mandarin (Native), Chinese Cantonese (Listening), English (Working Language), \LaTeX
- **Programming & Software:** Python, Java, C, SQLite, MATLAB, Stata, SPSS, Microsoft Office