Name:

- Tianli Li

Complete contact information:

- Email: l.tianli@wustl.edu
- Telephone: 3129823349

School:

- Olin Business School, Washington University in St Louis

Area of interest:

- Entrepreneurship Human Capital, Entrepreneurial culture, Innovation

Year of entry into the PhD program:

- 2024

Expected year of completion:

- 2029

The name of a faculty member supplying a letter of recommendation:

- Andy Wu, Arjun and Minoo Melwani Family Associate Professor of Business Administration in the Strategy Unit at Harvard Business School

Statement of Purpose

My research focuses on three interconnected areas: entrepreneurship human capital (particularly its knowledge component), entrepreneurial culture, and innovation. My academic journey has been shaped by diverse projects, from sociologically oriented research on method borrowing in academia to labor estimation and usage matching in open-source software projects, as well as various data management and processing tasks related to innovation and human capital.

Currently, I am engaged in two early-stage projects. The first examines the comparative advantages of generalists and specialists in entrepreneurial leadership, with an emphasis on how firm size influences their relative effectiveness. I am utilizing Crunchbase datasets and actively seeking additional data sources. My early-stage analysis of startups, incorporating leadership type, firm size, and performance metrics, along with LinkedIn data on individuals' professional backgrounds, suggests that specialist leaders outperform generalist leaders in smaller firms.

In collaboration with my cohort, I also explore the impact of the overturning of Roe v. Wade on the rate of non-incorporated self-employment among women. Leveraging IPUMS data and a difference-in-differences methodology, we have observed a small but significant increase in self-employment rates. We hypothesize that the flexibility inherent in self-employment is a key factor driving this trend, and we are continuously refining our causal analysis to strengthen the validity of our findings.

Looking ahead, I am deeply interested in the cultural dimensions of entrepreneurship. Specifically, I seek to understand how cultural factors such as trust, risk-taking, and ideological frameworks shape entrepreneurial outcomes. One underexplored phenomenon that intrigues me is the relationship between Confucian ideology and entrepreneurship in China. Coming from Shandong Province—the birthplace of Confucius—I have observed, both anecdotally and through data, that the region has a notably lower entrepreneurship rate despite similar levels of economic development compared to other areas. Historical evidence suggests that Confucian ideology, particularly the belief that intellectuals should serve the state rather than pursue private enterprise, has had a long-lasting influence on entrepreneurial human capital and startup quality. Tracing the evolution of this "Officialdom-Centric Culture" and its potential causal relationship with entrepreneurship is a challenging but critical endeavor, requiring novel measurement strategies and innovative data collection approaches.

This challenge underscores my strong desire to attend the research boot camp. I am eager to gain exposure to new datasets, emerging research fields in entrepreneurship, and advanced tools for data collection. Furthermore, my passion for entrepreneurship research was originally sparked by reading the works of Professors Josh Lerner and Scott Stern. The opportunity to engage with and learn from them, along with the distinguished scholars on the committee, would be an invaluable experience that would significantly shape my future research trajectory. I am excited about the possibility of refining my methodologies, broadening my theoretical perspectives, and contributing meaningfully to the field of entrepreneurship research.

Thank you very much for your time and consideration.

Tianli Li

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EDUCATION

Olin School of Business, Washington University in St Louis Aug. 2024 - Present
Ph.D. in Strategy and Entrepreneurship
The University of Chicago Sept. 2021 – Aug. 2022
MA in Social Sciences - Quantitative Methods and Social Analysis Track
University of Illinois at Urbana-Champaign Sept. 2017 – May. 2021
B.LAS, GPA**:** 3.91 /4.0
Triple major in Math (GPA:3.96), Statistics (GPA:3.97), and Philosophy (GPA:3.76)
Carnegie Mellon University June 2019 - July 2019
Summer School in Logic and Formal Epistemology

RESEARCH EXPERIENCE

Full-Time Predoctoral Research Associate, **Harvard Business School** July 2022 – June 2024

Professor Andy Wu (not limited to):

- Parsed, re-structured, and evaluated the LinkedIn dataset (more than 1 TB) about individuals' professions and educational backgrounds to make it available for academic use.
- Used different clustering algorithms to analyze competing groups of firms based on the Pitchbook dataset.
- Did literature reviews on the studies replicating previous studies in the field of strategic management, and the pure theoretical papers published in Strategic Management Journal in the previous 5 years. Reviewed relevant papers and write reports and paragraphs for multiple research projects.
- Collected data on network effects and social media firms' strategies for MBA teaching materials.

Professor Frank Nagle (not limited to):

- Calculated the market value using the COCOMO formula for open-source software in the BuiltWith and the Census dataset. Estimated the labor and wage required to reproduce the software. Used the price of proprietary software to estimate the market price for the open-source software, which is one of the key steps in the project evaluating open-source software's contribution to the economy.
- Collected tariff data for industries related to computers from the 1980s to the present.
- Did data visualization for different projects in Frank's open-source lab.
- Helped with R&R process: Mined information from all GitHub commit data (more than 40 billion lines) from 2008 to 2016, matching the commits to different countries and companies using email addresses, user information, and the Orbis dataset. Results will be presented in the paper *Government Technology Policy, Social Value, and National Competitiveness*.
- Used API to get all the Tweets mentioning paper DOIs for more than 600000 scientific papers.

Thesis Research Project, **University of Chicago** Jan. 2022 - Aug. 2022

- Advised by Professor Andrew Abbott at the sociology department.
- Uses archival data to discover the history of the birth of Markov chain Monte Carlo (MCMC) Method.
- Collected the citation data of MCMC across physics, math, statistics, biology, and social sciences from the 1950s to the 2000s.
- Examined the social factors and explained the spread of MCMC by the interactions of these forces in a 40-year process.

Research Assistant, **Technology and Social Behavior Lab at University of Illinois** Jan. 2020 - June 2021

- Worked with Professor Mike Yao at the Gender Identity and Artificial Intelligence research group.
- Reviewed literature about digital totalitarianism and collectivism and wrote research proposals about online surveillance.

Research Assistant, **Illinois Geometry Lab** Jan. 2019 - Jun. 2019

- Worked with Professor AJ Hildebrand, Professor Emeritus.
- Studied the approaches to evaluate randomness and programmed the coupon-collecting statistic model to test the randomness of the digits of a number. Used Mathematica to visualize the process of the randomness test.
- The model and the program were published in the Wolfram Alpha Visualization project.

ONGOTING PROJECTS

- **Working Paper:** Author, *Markov chain Monte Carlo Method in the 1990s, a Case Study of the Spread of Mathematical Knowledge*.
- **Academic Book Translation:** Co-translated with Dai Li. Aldon D. Morris, *The Scholar Denied – W.E.B Du Bois and the Birth of Modern Sociology*, University of California Press, 2015 (English version); will be published by The Commercial Press (Chinese version).

AWARDS AND PRESENTATION

- Maroon Scholar Research Award Scholarship of $30000, University of Chicago
- Dean's list of all semesters. **Cum Laude and with Highest Distinction in Statistics and with High Distinction in Mathematics,** University of Illinois at Urbana-Champaign
- *The Spread of Markov Chain Monte Carlo in the 1990s*, workshop on quantitative methods: graduate thesis presentation, University of Chicago, June 2022

RELEVANT COURSES

- **Basic Math & Logic**: Abstract Linear Algebra, Real Analysis, Intro to Abstract Algebra, Applied Complex Variables, Symbolic Logic, Advanced Symbolic Logic
- **Applied Math**: Differential Equations, Intro to Partial Differential Equations, Linear Programming
- **Statistics**: Probability, Statistical Analysis, Stochastic Processes, Professional Statistics, Statistical Programming Methods, Python in Data Science, Machine Learning
- **Social Science Method**: Empirical Methods in Business, Causal Inference, Working with Found Data, Overview of Quantitative Methods in Social and Behavioral Sciences, Social Network Analysis, Working with Found Data
- **Theory:** Microeconomics (PhD level), Organization Analysis (audited at Harvard), Perspectives on Social Sciences, Intro to Science Study, Theory of Knowledge, Philosophy of the State and Law, Intro to Anthropology

OTHER SKILLS/FACTS

Language:	Mandarin (Native), English (Fluent)
Computer:	R, Python, Mathematica, Latex, MATLAB (elementary level), and Java (elementary level)
Interest/Talent:	Vocal, Flute, Cycling, Badminton, Debate, Literature, Calligraphy, Art History, Business…
One Fun Fact:	I am known by some Chinese communities as a writer of short novels.

Harvard Business School

Andy Wu
Arjun and Minoo Melwani Family Associate Professor of Business Administration
Strategy Unit

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Friday, January 31, 2025

To the Selection Committee for the NBER Entrepreneurship Research Boot Camp:

It is with great enthusiasm that I write to recommend **Tianli Li** for the NBER Entrepreneurship Research Boot Camp 2025. I have had the privilege of working closely with Tianli as his supervisor during his time as a Research Associate in the Strategy Unit at Harvard Business School between July 2022 and June 2024. He is now a doctoral student at Washington University in St. Louis.

I am confident that Tianli will make significant contributions to the learning of his peers at the boot camp, and he is well positioned to leverage all the learnings from the program in his dissertation research. Tianli possesses the collaborative spirit and academic dedication necessary to thrive in an intensive learning environment such as the NBER boot camp. He is eager to engage with leading scholars and peers, and I am confident that he will fully immerse himself in the rigorous discussions and coursework. Given my own experience attending this boot camp in 2013, I can attest to the immense value it provides to early-stage scholars. Tianli is precisely the kind of candidate who will benefit from and contribute to this experience in a meaningful way.

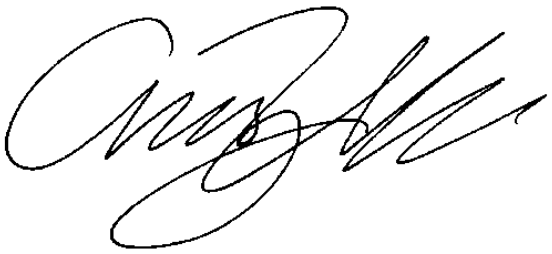
Tianli is a promising scholar with a well-defined research agenda centered on the intersection of entrepreneurship, human capital, and innovation. His work already demonstrates clear methodological rigor and a promising intellectual foundation. He is currently engaged in projects examining the comparative advantages of generalists and specialists in entrepreneurial leadership, as well as the impact of policy shifts on self-employment trends. His research questions are both timely and significant, with clear implications for entrepreneurship scholarship and practice.

Tianli is a highly motivated and intellectually curious scholar. His research interests have evolved organically from his academic background and professional experiences, and he approaches each research question with creativity and determination. His current exploration of cultural influences on entrepreneurship—particularly the impact of Confucian ideology on entrepreneurial activity in China—exemplifies his ability to integrate historical and sociological perspectives into the study of entrepreneurship. This interdisciplinary approach positions him well to contribute novel insights to the field.

One of Tianli's greatest strengths is his ability to tackle complex research problems using advanced empirical methods. During his time at Harvard Business School, he exhibited exceptional data management and econometric skills, working with large datasets such as Crunchbase, LinkedIn, and IPUMS. He has a deep understanding of causal inference techniques, and his ongoing projects reflect a strong command of difference-in-differences methodologies, panel data analysis, and computational modeling. His technical proficiency and attention to methodological rigor will allow him to engage deeply with the boot camp's materials and contribute valuable insights to discussions.

In sum, I give Tianli my strongest recommendation for the NBER Entrepreneurship Research Boot Camp. He is an outstanding candidate with a promising research trajectory, advanced technical skills, and a deep commitment to entrepreneurship research. I am confident that he will excel in the program and emerge with new insights that will further his research and academic career. Please do not hesitate to be in touch if I can provide any additional information to assist with your decision.

Sincerely,



Andy Wu, PhD