NBER Innovation Research Boot Camp Application

Applicant Information

- **Name:** Luman Zou
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- **Phone:** 347-789-0685
- **School:** Columbia Business School

- **Area of Interest:** Innovation, Entrepreneurial Finance, Corporate Finance, Labor Economics
- **Year of Entry:** 2024
- **Expected Year of Completion:** 2029
- **Recommender:** Michael Ewens (me2731@columbia.edu)
- **PhD Courses:** Micro Economics (I & II), Finance Theory, Econometrics, Industrial Organization III, Labor Economics, Topics in Organizational Economics, Times Series, Panel Data, Corporate Finance Theory, Empirical Corporate Finance, Research in Entrepreneurial Finance,

Luman Zou

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Education

Columbia Business School — New York, NY
Ph.D. in Finance — *Aug.2024 – Present*

Nankai University — Tianjin, China
Bachelor of Economics (Distinction), major in Finance — *Sep.2018 – Jun.2022*

University of Wisconsin-Madison — Madison, WI
Visiting Student, Wisconsin School of Business — *Jul.2019 – Aug.2019*

Research Interests

Innovation, Entrepreneurial Finance, Corporate Finance, Labor Economics

Working Paper and Work in Progress

Choice of Intangible Collateral | with Dominik Supera (Columbia)
Firms increasingly use intangible assets as collateral to access credit markets, yet the implications of this financial innovation remain underexplored. This paper examines the conditions under which firms pledge intangible versus tangible assets and the consequences for credit allocation, firm risk-taking, and lender behavior. We develop a theoretical framework where firms strategically choose collateral based on their expectations of financial distress, weighing the liquidation value and business continuity implications of different asset types. Using variation induced by financial crises, we test whether firms pledging intangible collateral exhibit higher risk-taking and greater ex-post distress compared to those using tangible assets. Empirical evidence suggests that banks apply significant discounts to loans backed by intangibles, reflecting heightened information asymmetry and liquidation uncertainty. Further, we investigate the geographic and institutional determinants of intangible collateralization, shedding light on the role of financial sophistication and regulatory environments. Our findings have implications for understanding the trade-offs between financial innovation and credit stability in modern lending markets.

Too Late to Invent: Protective Patent Acquisition facing Lawsuit [link]
This paper investigates the strategic response of firms to patent infringement lawsuits through patent acquisition. Using data on the universe of US public firms from 1980 to 2016, I find that firms purchase 38.82% more patents to protect their sales when facing infringement lawsuits, regardless of their innovative ability. Additionally, the acquisition effect is magnified when a firm expects to hold an IPO, being 9.1 times larger compared with normal purchases. However, these patents only serve a protective purpose for sales and do not significantly impact a firm's future innovation and efficiency in generating profit.

Divergence of Investors' Opinion and Industry Growth | with Da Huo (MIT) [link]
National Innovation Grant; Best Economics and Finance Paper Award of National Innovation Project
In contrast to Diether Malloy Scherbina (2002) and Yu (2011), instead of inspecting individual stocks or market portfolio, the objective of this paper is to probe the predictability of divergence of opinion to the future development of an industry. By taking long-run investors' point of view, rather than examining returns in a short period of time as in most literature, we focus on an industry's growing potential which is proxied by an ex post long-term return. We found that industry level disagreement is positively related to the ex-post industry portfolio return, with its optimal forecasting horizon extended to longer periods in recent years, which is opposite to the prediction in Miller (1977). In particular, a two-standard-deviation increase in DIVOP is related to 2.04to empirical results of the individual stock and market level tests. Besides, the significance of this relationship increases with the horizon of the portfolio construction and is more prominent in OTC market like Nasdaq, comparing with exchange market including NYSE and AMEX (now known as NYSE American).

Research Experience

Columbia Finance Predoctoral Fellowship Program

- Main PIs: *Michael Ewens, Xavier Giroud, Emmanuel Yimfor, Dominik Supera, Wenxin Du*

Other Research Assistance

- Citation Network and Industry Growth: *Jiening Pan (Nankai University)* and *Kai Li (HKUST)*
- Volatility Modeling: HN-GARCH and Component GARCH Model: *Jean-François Bégin (Simon Fraser University)*

Other Academic Experience

Wharton Innovation Doctoral Symposium (WINDS) 2025. (Presenting in March, 2025.)

2023 NYU Stern Innovation Conference: Innovation and Environmental Sustainability.

Columbia Private Equity Conference, New York, United States, March 2023.

Statistics 2021 Canada: 6th Canadian Conference in Applied Statistics, Montreal, Quebec, Canada, July 2021.

Online workshop in Entrepreneurial Finance | Supervisor: Shai Bernstein

Teaching Experience

Financial Econometrics | *Teaching Assistant, Nankai University*	Sep.2021–Jan.2022
Probability | *Teaching Assistant, Nankai University*	Mar.2020–Jun.2020

Honors and Scholarships

Best Economics and Finance Paper Award of National Innovation Project	2022
Academic Excellence Scholarship (1%)	2021
Globalink Scholarship (0.1%)	2021
Excellent Paper Award of Principal Cup, Nankai University	2021
Zhide Intelligence Scholarship (1%)	2020
National Innovation Grant	2020

Additional Information

Programming: Stata (proficient), Python (proficient), MATLAB (familiar)
Interests: Tennis; Snow boarding; Boxing; Cooking

Research Statement

I am a finance Ph.D. student at Columbia Business School with a strong research interest in Innovation, Entrepreneurial Finance, Corporate Finance, and Labor Economics. My current research focuses on how intellectual property and human capital shape firms' financing frictions and growth trajectories, as well as how firms manage and leverage these assets in financial decision-making.

One of my current projects studies how startups strategically respond to lawsuits filed shortly after their exit. I find that firms accused of infringement are more likely to purchase patents compared to those that are not. However, these acquired patents do not significantly improve future profitability or innovation, suggesting that such purchases primarily serve as a short-term legal shield rather than a productive investment. Another project examines why publicly listed firms with substantial tangibles assets pledge intangible assets as collateral for loans, whereas startups do so less often. This empirical puzzle arises from the disproportionately high costs of evaluating intangible assets for both firms and financial institutions due to asymmetric information, as well as the fact that startups tend to hold fewer tangible assets relative to intangibles.

My future research will put greater emphasis on the labor economics in the context of innovation and corporate finance, particularly on how firms strategically invest in and allocate human capital to sustain long-term growth and competitive advantage facing financial constraints. One of my recently initiated projects examines how startups manage human capital before and after external financing. I will address how startups manage their talent composition under financial constraints, the influence of investors on innovation and labor employment, and establishment-level labor shifts.

Attending the boot camp would provide me with an invaluable opportunity to further my understanding of frontier research topics in innovation and engage with researchers working in this area. Exposure to research at the intersection of innovation and other fields may also generate new insights and research directions. This opportunity to engage in discussions, exchange ideas, receiving feedback from leading researchers and peers would be more than valuable for my current research and guiding my future work in the field.

Columbia Business School

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David L. and Elsie M. Dodd Professor of Finance
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18th Entrepreneurship Research Boot Camp (ERBC)

Recommendation for Ms. Luman Zhou

Dear Boot Camp Organizers,

I am writing to support Lumon Zou's application for the Innovation Research Boot Camp 2025. Luman is a finance Ph.D. student at Columbia Business School with excellent research potential, and I encourage you to give her your most careful consideration.

I have known Luman since 2022, when she was the Finance Division's pre-doc. She was an excellent RA for me across multiple projects. Several of those projects included working with patent data and studying innovation. She and I also spoke monthly about two of her projects on patenting and patent lawsuits. Her ability to quickly get familiar with the patent data and synthesize the key results in the area impressed me. She also put in the critical work to learn the institutional details of the patenting process. She would benefit from attending the bootcamp in at least two ways. First, outside of my PhD course on entrepreneurial finance, our PhD curriculum does not cover innovation at great depth. Secondly, from my experience at the NBER Entrepreneurship bootcamp (too many) years ago, I know it is an excellent opportunity to meet other PhD students and future coauthors.

She has my strongest recommendation.

Sincerely,
Michael Ewens
David L. and Elsie M. Dodd Professor of Finance
Columbia Business School

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