Yupeng Liu

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1. Contact Information

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2. Graduate Study

I am a second-year PhD student in Strategy and Entrepreneurship at the Leeds School of Business, University of Colorado Boulder. I enrolled in August 2025, have completed the coursework requirements of the program, and expect to finish in 2030. Before the PhD, I earned an MA in Applied Economics from Georgetown University (2018), a BSc in Mathematics with first-class honors from the University of Birmingham (2017), and a BA in Management from Huazhong University of Science and Technology (2017).

Most of my research training before the PhD was in applied economics. From 2018 to 2020 I was a full-time research associate on the Startup Cartography Project at Columbia Business School. There I processed about 44 million business registration records, built classification models, and released public datasets. This work led to a coauthored article in Research Policy (2022) and an NBER Working Paper on how COVID changed the geography of entrepreneurship (w28787). From 2023 to 2025 I worked in Singapore as a digital forensics specialist at EY, where I built fraud detection models and applied NLP and OCR to large collections of records. In my PhD research I use these skills to build large panels from GitHub, Hugging Face, Google Maps and other web sources.

3. Research Interests and Projects in Progress

I study how digital technologies and AI change where knowledge, attention and competitive advantage sit, across firms, user communities and countries. Most of my projects ask how firms organize innovation when a technology shock changes what is scarce. I answer these questions with large data sets built from digital platforms and with difference-in-differences designs.

3.1 Main project: Dependence Reconfiguration: Open-Source Governance as a Response to Geopolitical Restrictions on Critical Technologies (with Tony W. Tong and Yuping Li; working paper, 2026)

Question. When a critical upstream technology is restricted, how do firms organize their downstream innovation? AI software creates value only together with frontier compute, and the supply of that compute is highly concentrated: NVIDIA holds about 88% of the AI accelerator market and TSMC about 92% of leading-edge fabrication.

Setting. The U.S. export controls announced on October 7, 2022 restricted advanced AI chips, chipmaking equipment and support by U.S. persons. Unlike the earlier actions against Huawei (2019) and SMIC (2020), which targeted single firms, the controls applied to every Chinese firm whose products depend on the restricted hardware, and later rounds in October 2023, December 2024 and April 2025 closed the main workarounds. Because every frontier supplier fell under the same rule, the usual responses to supplier dependence, such as switching suppliers, acquiring them or exiting the market, were not available.

Argument. We argue that firms respond by moving from concentrated dependence on a few upstream suppliers to distributed dependence on many users and developers. When compute is constrained, closed code loses much of its complement, so releasing code becomes cheaper relative to keeping it closed. Outside developers bring knowledge of their own hardware, data and languages, and published software is generally not subject to U.S. export rules. Release alone is not enough, however. Firms also choose how to govern

what they release: breadth, meaning how permissive the license is, sets who may use the code, and depth, meaning how much write access outsiders hold, sets who can shape what enters the codebase.

Data and design. We build a firm-level GitHub panel of 664 Chinese AI software firms, mostly application firms, from 2020 to 2025. For each firm we track repositories, licenses, write access, forks and pull requests. We compare exposed firms with matched controls before and after October 2022 in a matched difference-in-differences design.

Findings. Relative to controls, exposed firms released more code under permissive licenses (+7.1 log points), were 15.7 percentage points more likely to have verified employees hold less than half of active write access, received more forks (+10.6 log points), and received more pull requests from outside developers (+10.1 log points). Open release, open governance and outside contribution rose together.

Why it matters. The paper shows that restrictions on hardware can push firms to make their software more open, which has direct consequences for how AI capabilities diffuse. The gap between open-weight and closed frontier models has narrowed to a few months, and since late 2024 the leading open-weight model has come from a Chinese developer at each quarter end. For digital economics, the project connects trade policy, complementarity between hardware and software, and user innovation in one setting with detailed platform data. I presented this work at the Strategic Management Society Annual Conference in Berlin and at a research seminar at ETH Zurich, both in October 2026. At the tutorial I would value feedback on identification, in particular on separating the effect of the controls from the broader rise of open models in China after 2023.

3.2 Other projects in progress

- **AI Review Summaries and the Allocation of Owner Attention: Evidence from Google Maps** (with Jay Park and Shaoqin Tang). Generative AI summaries now sit at the top of many review pages and shape which customer comments readers see first. We ask whether restaurant owners shift their attention toward the points these summaries surface. Our data cover 13,718 restaurants and 13.66 million reviews in seven metro areas from 2022 to 2026. We use a difference-in-differences design, and our main outcome is whether owners' follow-up replies resolve the problems customers raise.
- **The Rise of National AI Ecosystems amid Geopolitical Competition: Governance and Strategy Implications** (with Tony W. Tong and Shihao Zhou). We propose a dual-governor framework in which states and hub firms jointly govern AI ecosystems along two dimensions, control and ownership, and we compare the United States and China.
- **Construct Laplace** (construct-laplace.org). An AI-built, searchable record of hypotheses tested in strategy and organization research, linking constructs, measures and findings so that scholars can see which relations have been tested and which remain open. We are preparing a proposal for the Organization Science special issue on AI-Enabled Frontiers in Organizational Science.
- **Embodied AI and open data** (early stage). I am starting a project on how embodied AI developers choose between real-world and simulated training data, and on how much the field relies on open-source data shared on platforms such as Hugging Face.
- **Earlier work on entrepreneurship.** Besides the Startup Cartography Project (Research Policy, 2022) and the NBER paper on COVID and business formation, a working paper with Jorge Guzman uses a daily index of U.S. business registrations to show that startup registrations fall for about six weeks after short-term interest rate increases.

3.3 Dissertation

Title. Open and User Innovation in the Age of AI: Essays on Firms, Users, and Governance (working title). The dissertation asks how firms open their technologies to outside users and developers when AI and geopolitical shocks change what is scarce, and how they govern who may use and shape what they release. The Dependence Reconfiguration paper is planned as the first essay.

Potential committee members. Tony W. Tong, MJ Yang, Sina Sokhan, Jorge Guzman.