

Na Liu

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EDUCATION

Cornell University, Ithaca, USA
Ph.D. Candidate in Economics

Columbia University, New York City, USA
M.A. in Quantitative Methods

ACADEMIC EXPERIENCE

- Present **Visiting Research Fellow**, Tsinghua University
School of Economics and Management
Project: Conduct Research in Digital Platforms, User-generated Content (UGC)
& Artificial Intelligence (AI)
- Present **Business Founder**, Malykam LLC
Supervisor: Prof. Catherine Tucker, MIT Sloan School of Management
Project: Provide supply chain solutions in natural gemstones and supervise an on-
line retail platform to conduct empirical experiments in AI & Digital Economics
- 2018 **Research Assistant**
Supervisor: Prof. Amit Khandelwal, Columbia Business School
Project: Globally scalable algorithms using JavaScript to detect and automate
world-scale spatial markets proving Zipf's Law based on economic activities through
Geographic Information System (GIS) using satellite data in Google Earth Engine
(GEE) and spatial models on ArcGIS via Python

RESEARCH INTERESTS

Fields: Information Management, Analytics, Applied Economics, Industrial Organization
Topics: Multi-sided Digital Platforms, AdTech, User- & AI-generated Content (UGC & AIGC)
Methodologies: Empirical Study, Econometrics, Causal Inference, Structural Modeling, Experiments

RESEARCH PROJECTS

1. **How Commission Fees Reshape Digital Advertising and Creator Economies: Implications for Platform Pricing**

Invited Presentations: CES 2024, AMA 2024, INFORMS 2024, AEA 2025, **CIST 2025**

Under Review, *Information Systems Research*

Supervised by Prof. Chris Forman (Cornell)

This study examines how commission fee pricing reshapes multi-sided user-generated content (UGC) platforms by analyzing a natural experiment where a major platform eliminated fees for goods-selling ad links in sponsored contents. Using various market-level difference-in-differences models, we reveal three key findings: (1) Advertisers reallocated 13% of placements toward fee-exempt links, demonstrating notable price sensitivity; (2) Platform revenue declined as substitutions outweighed demand expansion; and (3) The fee exemption triggered a redistribution on the creators' side, with contents for treated advertisers gaining three additional interactions per 100 views, occurring primarily from top creators. Our work advances information systems research by providing the first causal evidence on how commission fee changes reconfigure multi-sided markets—spanning advertisers, creators, and platform revenues. The findings highlight critical trade-offs: while fee structures steer advertiser behavior, they may inadvertently cannibalize revenue and amplify redistribution among participants in this multi-sided ecosystem. These insights inform platform governance by demonstrating the need to balance participation with profitability and model cross-sided effects before implementing pricing changes.

2. **Intermediaries in the UGC Digital Economy: MCN Roles and Revenue Sharing**

Supervised by Prof. Chris Forman (Cornell) and Prof. Michael Zhang (CUHK)

The rapid expansion of the digital economy has diversified content creation and promotion, positioning digital intermediaries as key actors in the content industry. This study investigates the role of Multi-Channel Networks (MCNs) on user-generated content (UGC) platforms through a 60-day platform experiment featuring traffic bonuses and cash incentives. Using multiple two-way fixed-effects difference-in-differences designs combined with propensity score matching, we quantify how MCN intermediaries influence advertising efficiency and creator compensation. We find that creators working with MCNs earn 56% higher monthly revenue and receive 18.1% more total views. However, when platforms facilitated MCN–creator partnerships through traffic bonuses, MCNs signed 2.7% more new creators, yet the resulting view growth was driven by bonus traffic rather than improved content quality. Moreover, larger MCNs diverted bonus traffic to incumbent creators. By analyzing entry and exit in MCN–creator collaborations, shifts in creator revenue, and content performance, we infer plausible ranges of MCN take rates by isolating the intermediary's “value added” relative to its retained revenue share. Our findings highlight how intermediaries balance operational support with profit extraction, offering implications for the governance and regulation of multi-sided digital platforms.

3. **Consumers' Preferences and Aversion on AIGC**

with Prof. Catherine Tucker (MIT)

Artificial Intelligence–Generated Content (AIGC) is increasingly shaping digital platforms, advertising, and product design, yet its implications for consumer trust and purchasing behavior remain unclear. This study investigates whether consumers exhibit intrinsic aversion to AI-generated designs or whether skepticism arises primarily from transparency about AI use. We conduct a

large-scale field experiment on Ad campaigns and a partnering e-commerce platform, leveraging ten matched pairs of AI-generated and human-designed products. The design varies disclosure across three conditions: no tag, explicit AI tag, and randomized tagging, enabling us to separate intrinsic preferences from instrumental trust. Click-through rates (CTR) capture immediate consumer interest, while conversion rates and coupon redemption behavior quantify economic trust gaps (“trust premiums”) associated with AI disclosure. To uncover mechanisms, we administer follow-up surveys measuring authenticity, emotional appeal, and skepticism, complemented by a computer vision classifier that evaluates visual distinguishability of AI and human designs. We further explore AI simulations as proxy respondents to assess the feasibility of AI-assisted behavioral research. Our findings contribute to information systems and marketing literatures on algorithmic aversion, transparency, and consumer trust, offering actionable insights for firms deploying AIGC and informing regulators considering disclosure mandates in digital marketplaces.

4. Firm Heterogeneity and AI Industry Development

with Dr. Ting Ma (The Institute of Scientific and Technical Information of China)

Preparing Submission to *Research Policy*

This paper investigates the impact of China’s Innovative Pilot Policy on firm restructuring in the artificial intelligence (AI) industry using a quasi-natural experiment framework. Based on matched multi-level data from 2005 to 2019, we employ a staggered difference-in-differences design complemented by triple difference models to identify causal effects and heterogeneity. Results show that the AI Pilot significantly boosts AI-related firm financing, increasing restructuring intensity by 21.9% ($p < 0.01$), with effects strengthening over time. Benefits are concentrated among upstream firms (e.g., data and hardware providers) and core AI service enterprises, while mature firms gain more than startups. Product-level analysis reveals particularly strong responses among firms specializing in intelligent computing, autonomous systems, drones, and image recognition technologies. Mechanism analyses highlight the roles of credit supply, industrial upgrading, patent activity, and talent agglomeration. We also identify positive local innovation spillovers, evidenced by increased patent applications and grants. The study underscores the disproportionate benefits for upstream and core AI firms, offering implications for inclusive policy design and contributing to technology research by linking AI initiatives to micro-level firm outcomes.

5. Market Structure and Location-based Food Deserts in Smart Cities

with Prof. Nathan Yang (Cornell)

Access to high-quality establishments is a key amenity in local markets. This research examines how strategic entry and exit, modeled through dynamic structural frameworks, shape food markets. Using a rich dataset of food-service establishments across the U.S. with fine digital and geographic granularity, we estimate a dynamic discrete-choice model of entry and exit under competition, applying an Oblivious Equilibrium to handle many firms. Machine learning methods classify establishments and identify competitive groups, boosting predictive power. Results show strong deterrence effects—incumbents, especially dominant firms, reduce payoffs for entrants—alongside nuanced within-category stimulation. Counterfactuals reveal that lowering entry costs for healthy firms by subsidies significantly raises their long-run share in underserved areas, helping mitigate food deserts. We discuss implications for smart-city planners, emphasizing that market design must account for strategic incentives and competitive dynamics.

TEACHING EXPERIENCE

Instructor

- **Digital Platforms and Business Analytics**
Support education in underdeveloped areas: Xinjiang University, Finance and Economics

Teaching Assistant

- **MBA:**
NBA5615 Digital Platform Strategy Spring 2024, Spring 2023, Spring 2022
- **Microeconomics & Macroeconomics:**
ECON3030 Intermediate Microeconomic Theory Spring 2023
ECON1300 & 1120 Intro to Macroeconomics Summer 2022, Spring 2021
ECON3040 Intermediate Macroeconomics Theory Spring 2022
ECON1110 & ECON1110dl Introductory Microeconomic Fall 2024, Winter 2022
- **Econometrics:**
ILRLE3445/ECON3770 Inequality in U.S. Higher Education Spring 2024
ECON3120 Applied Econometrics Fall 2022
ECON3130 Statistics and Probability Fall 2021, Fall 2020

Course logistics & development, created and graded quizzes, problem sets, prelims and finals, held online Ed discussion board, class discussions and office hours, taught 1-3 weekly sessions (for 6 semesters - Undergraduate core) and statistical software with the highest evaluation in curved required courses: [4.70/5.0 in Applied Econometrics with Programming Sessions](#), [4.35/5.0 in Macroeconomics](#), and [4.32/5.0 in Microeconomics](#), with Evaluations from Students and [Recommendation Letters](#) linked.

HONORS, AWARDS & SCHOLARSHIPS

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| Present | Sage Fellowship, Cornell University |
| 2025 | International Research Awards, Einaudi Center, Cornell University |
| 2024 | Conference Grant, Department of Economics, Cornell University |
| 2024 | Conference Grant, Graduate School of Arts and Sciences, Cornell University |
| 2024 | Conference Grant, China Economic Association |
| 2023 | Funded Attendee, NBER's AI & Digital Economics Tutorial & Conference |
| 2023 | Research Travel Grant, Graduate School of Arts and Sciences, Cornell University |
| 2023 | International Research Grant, Einaudi Center, Cornell University |
| 2022 | Innovation, Entrepreneurship, and Technology (IET) Research Grants, Cornell University |

SERVICE

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| Organizer | Session Organizer of "Digital Economy: Advertising Platforms, Regulation, and User Behavior", American Economic Association (AEA), San Francisco, 2025 AI & Digital Economics Student Webinars, after NBER's Conference of Digital Economics and Artificial Intelligence, Fall 2023 The Works in Progress Seminar(TWIPS), Department of Economics, Cornell University, 2022-2023 |
| Reviewer | Program Committee to review submissions regarding artificial intelligence (AI), Workshop on Information Technologies and Systems (WIST), Nashville, U.S. 2025 |
| Mentorship | (On their AIGC Project) Shihan Gao, Information Science, Cornell University (On their AIGC Project) Yunoo Kim, Computer Science, Cornell University (On Retailing Tools) Saksham Sood, Computer Science, Cornell University |

SKILLS

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| Programming | R, MATLAB, LaTeX, JavaScript, Python, Stata, QGIS, ArcGIS |
| Hobbies | Piano (Level 10 Certificate), Swimming, Olympic Fencing |

September, 2025