Ali Kozehgaran
PhD Candidate, Quantitative Marketing
Whitman School of Management, Syracuse University
akozehga@syr.edu | (315) 395-7430 | www.AliKozehgaran.me

APPLICATION FOR NBER TUTORIAL ON DIGITAL ECONOMICS AND AI

I am a fifth-year PhD candidate in the Quantitative Marketing program at Syracuse University. My doctoral training encompasses advanced econometrics (Econometrics I, II, and III), panel data methods, and big data analytics, providing me with a rigorous foundation in empirical modeling and causal inference. My research sits at the intersection of Platform Economics, Information Dynamics, Visual Signaling, and Digital Transformation. Using empirical modeling, causal inference, machine learning, and multi-modal large language models, I study how technology-driven information asymmetries reshape strategic interactions, consumer perception, and platform design. This work directly connects to emerging questions in AI economics, particularly regarding how AI-generated content, algorithmic intermediation, and automated decision-making transform information environments and market mechanisms.

My attendance at this tutorial aligns naturally with my research trajectory and methodological approach. As AI tools increasingly mediate information production, consumption, and market transactions in digital platforms, understanding the economic implications of AI becomes central to my research agenda. Specifically, I am interested in:

AI-Generated Information Asymmetries: How do generative AI tools (text, images, video) create new forms of information asymmetries in digital markets? My current work on image manipulation provides a foundation for broader questions about AI-generated content credibility and platform governance.

Algorithmic Intermediation and Market Design: How do AI-powered recommendation systems, matching algorithms, and dynamic pricing mechanisms reshape platform competition and user welfare? My work on coalition formation and technology adoption informs questions about AI-driven market structure evolution.

Trustworthy AI in Platform Economies: What mechanisms can platforms implement to ensure AI systems maintain market integrity while preserving efficiency? My research on visual deception and trust signals contributes to understanding verification and governance challenges in AI-mediated markets.

The tutorial offers an invaluable opportunity to engage with leading researchers addressing these questions, refine my understanding of frontier research methods in digital economics and AI, and establish connections that will shape my scholarly development as I enter the academic job market and build my research program.

Dissertation Title: Essays on Digital Platforms and Information Asymmetry

RESEARCH PROJECTS IN PROCESS

"Visual Deception or Enhancement? The Impact of Image Manipulation on Shaping Consumer Perceptions"

This project investigates a novel form of information asymmetry in experiential digital markets where AI-powered image manipulation tools enable sellers to systematically alter visual signals. Using a panel dataset of over 400,000 Airbnb listings with 1.5 million images, I develop a two-step image forgery detection framework that combines a Domain Tag Generator model with a Multi-Modal Large Language Model (MLLM). This framework identifies not only whether manipulation occurred but also its scope and embedding method based on both pixel-level and semantic inconsistencies.

The AI detection system reveals that a substantial proportion of listings employ image manipulation, creating systematic information asymmetries between sellers and buyers. Using the matrix completion method (Athey et al., 2021), I estimate the causal impact of this AI-facilitated misrepresentation on user satisfaction and property performance. This research contributes to understanding how AI tools reshape information production in digital platforms and has implications for platform governance, trustworthy AI design, and regulatory approaches to AI-generated content.

"Disintermediation and Coalition Formation in the Traditional Taxi Industry"

This project examines how traditional service providers adapt to digital disruption through technology adoption and coalition formation. Using a six-year panel dataset of over 50 million trip records, I study the staggered adoption of mobile-hailing technology and the role of coalition-based integration. Employing an interactive fixed effects (IFE) estimator (Xu, 2017) and the Callaway and Sant'Anna (2021) approach, I find that technology adoption increases performance primarily through extended working hours rather than efficiency gains, with meaningful efficiency improvements emerging only when adoption is sustained within structured coalition networks.

This work speaks to fundamental questions in digital economics about the conditions under which technology adoption generates productivity gains and how organizational structures mediate the returns to digital transformation—questions increasingly relevant as AI adoption accelerates across industries.

Additional Research on Platform Economics

Beyond my dissertation, I am developing research on digital trust mechanisms and information processing in platform markets. One project introduces a two-stage signal-processing framework examining how users sequentially interpret layered signals in

digital environments, with implications for AI-driven recommendation systems and platform design.

Committee Members:
• Scott Fay (Chair), Professor of Marketing, Syracuse University
• Liangbin Yang, Professor of Marketing, Syracuse University
• Minjung Kwon, Associate Professor of Marketing, Syracuse University
• S.P. Raj, Professor of Marketing, Syracuse University
• Candace Jens, Associate Professor of Finance, Syracuse University