

Di Yuan

POSTDOC · GIES COLLEGE OF BUSINESS, UIUC

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Appointment

Gies College of Business, University of Illinois Urbana-Champaign
Postdoctoral Research Associate

Champaign, IL, USA
Fall 2023 - present

Education

Katz Graduate School of Business, University of Pittsburgh
Ph.D. in Information Systems

Pittsburgh, PA, USA
2023

University of Melbourne
M.S. in Accounting

Melbourne, VIC, Australia
2011

Shanghai University of Finance and Economics
B.S. in Accounting

Shanghai, China
2009

Research Interests & Methods

Focus: Economics of Machine Learning, Algorithms, and AI; Online Platforms, with an emphasis on the impact of AI.

Methods: Analytical Modelling, Game Theory, Econometrics, Causal Inference, and Machine Learning.

Research Papers

UNDER REVIEW

Di Yuan, Manmohan Aseri & Tridas Mukhopadhyay. “*Is Fair Advertising Good for Platforms?*” Major revision (2nd round) at **Marketing Science**.

- **Winner, Best Student Paper Award** in Conference on Information Systems and Technology (CIST), 2021.
- **Abstract:** Empirical data suggests that certain demographic groups—such as racial minorities and women—are less likely to see ads for economic opportunities. This discrepancy arises from advertisers’ differing targeting priorities, with consumer goods advertisers prioritizing specific demographics, while economic-opportunity advertisers often maintain neutral targeting. We propose the concept of “equal-exposure” fairness, which aims to increase the visibility of economic-opportunity ads to the protected group. The results show that adopting equal-exposure fairness intensifies competition between advertisers and ultimately increases platform revenue, highlighting the potential for platforms to benefit from fairness policies that align with broader societal goals.

Di Yuan, Manmohan Aseri & Narayan Ramasubbu. “*Backfiring AI? AI Deployment in Workplace*” Major revision at **Management Science**.

- **Abstract:** As many firms adopt AI with the expectation that it will facilitate knowledge transfer and improve productivity, we studied the unintended consequences of deploying AI systems in competitive workplace environments. We argue that AI can disrupt competitive dynamics among employees by codifying and disseminating the skills of high performers, which in turn demotivates these employees. Using a game-theoretic model, we demonstrate that AI deployment can lower the overall firm productivity. Our results have policy recommendations for firms to maximize the returns from AI adoption, emphasizing that simple solutions such as guaranteed rewards may not effectively address the problem. Instead, deliberately limiting the AI’s efficacy could be necessary for better organizational outcomes.

WORKING PAPERS

Di Yuan, Manmohan Aseri, Vibhanshu Abhishek & Kartik Hosanagar. “*Economics of GenAI Adoption by Creator Platforms*”

- **Abstract:** For online content platforms, such as YouTube and TikTok, Generative AI tools could shift the competitive landscape among creators. We find that low-quality creators benefit more from GenAI support, which could lead to the displacement of high-quality creators and a decline in overall content quality. As a remedy, we suggest the platforms charge a price for using generative AI, which not only leads to an additional source of revenue for the platform but also prevents the exodus of high-quality content creators.

Luying Wang & Di Yuan. “AI-Generated Content: Recommend or Not?”

- **Abstract:** With a game theory model, we investigate the content recommendation strategies of online platforms when creators begin using GenAI to create content. Our model examines the trade-offs platforms face when deciding whether to promote GenAI-assisted content and highlights the potential risks of distorting both horizontal and vertical competition among creators.

RESEARCH IN PROGRESS

“Opioid Crisis and Prescription Drug Monitoring Programs.” with Zia Hydari & Narayan Ramasubbu

“Beyond Taste: Using Large Language Models to Mitigate Bias in Online Product Reviews.” Data analysis

“The Influence of AI Chatbot Assistance on Student Learning and Engagement in College Education.” Research design

Conference Presentations

Di Yuan & Luying Wang. “AI-Generated Content: Recommend or Not?”

- INFORMS 2024 (Scheduled)

Di Yuan, Manmohan Aseri, Vibhanshu Abhishek & Kartik Hosanagar. “Economics of GenAI Adoption by Creator Platforms”

- ISMS 2024, CIST 2023, INFORMS 2023, WISE 2023

Di Yuan, Manmohan Aseri & Narayan Ramasubbu. “Backfiring AI? Examining AI Deployment in PayForPerformance Regimes.”

- Wharton AI Conference (May 2024), CIST 2022, WISE 2022

Di Yuan, Manmohan Aseri & Tridas Mukhopadhyay. “Is Fair Advertising Good for Platforms?”

- CIST 2021, WISE 2021, INFORMS 2022

Teaching Experience

INSTRUCTOR

Advanced Marketing Management (Undergraduate)

- Spring 2024
- Developed assignments incorporating marketing analytics and A/B testing, fostering student engagement with real-world applications.

Introduction to Information Systems (Undergraduate)

- Spring 2022, two sections (Evaluation: 3.9, 4.0/5.0)
- Fall 2021 (Evaluation: 3.1/5.0)
- Delivered in both online and in-person formats; designed multiple assignments integrating practical information systems knowledge.

TEACHING ASSISTANT

Business Systems Platforms (Graduate). Spring 2018, Spring 2019, Spring 2020, Spring 2021.

Information Systems (Graduate). Summer 2021.

IT Architectures and Platforms (Undergraduate). Spring 2020.

Industry Experience

ESUPERFUND Pty Ltd

Docklands VIC, Australia

Project Manager

Mar 2015 - May 2017

- Led the development of the back-end data processing pipeline for the in-house accounting system, reducing the manual data cleansing tasks.
- Improved the scalability of the data processing system with Amazon Web Service (AWS).

Business & Data Analyst

May 2012 - Mar 2015

- Analyzed and implemented the business requirements for the web-based client portal and client management system (CRM).
- Created automatic processes to cleanse transactions data with SQL.

Awards

Best Student Paper Award in Conference on Information Systems and Technology	2021
Katz Travel Grant, University of Pittsburgh	2021 - 2022
ELG Fellowship, University of Pittsburgh	2017 - 2022

Services & Professional Development

AD-HOC REVIEWER

Journals: Management Science, Transactions on Management Information Systems, Information Technology and Management

Conferences: ICIS 2024, ECIS 2020

SKILLS & MEMBERSHIPS

Programming: proficient in SQL, R, Python, Stata, and Mathematica; work knowledge in MATLAB and SAS

AIS, INFORMS member

Certified Practicing Accountants (Australia) Member