ZIPEI LU

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EDUCATION

University of Maryland, College Park	College Park
Ph.D. in Marketing (Minor in Economics)	*Expected 2026*
M.S. in Marketing Analytics	*2019*
Fudan University	Shanghai
B.S. in Physics	*2018*

RESEARCH INTEREST

Topics: Customer Journey, Multi-Channel Marketing, Product Assortment

Methods: Artificial Intelligence (AI), Machine Learning, Bayesian Statistics and Econometrics

PUBLICATION

Zipei Lu and P. K. Kannan, "AI for Customer Journeys: A Transformer Approach," Forthcoming at *Journal of Marketing Research*.

- Lisa Scheer Award for Best Dissertation Proposal, Marketing Strategy Consortium, 2024

- ISMS Early-Stage Research Grant, 2024

- Best Paper Award (AI Track), Marketing Dynamics Conference, 2023

- Amazon Research Award Spring/Summer 2022

WORK IN PROGRESS*

"AI-Generated Customer Journeys under Privacy Regulation," Zipei Lu, Michael Trusov, Liye Ma, and P. K. Kannan

- Smith Internal Grant ($20,000)

"Visual Competition in Online Marketplaces," Zipei Lu, P. K. Kannan and Michel Wedel

FELLOWSHIPS, GRANTS AND AWARDS

AMA-Sheth Consortium Fellow	2025
Lisa Scheer Award, Marketing Strategy Consortium	2024
Winner, ISMS Early-Stage Research Grant	2024
Smith Internal Grant ($20,000)	2024
Marketing Strategy Consortium Fellow	2022, 2024
Best Paper Award (AI Track), Marketing Dynamics Conference	2023
ISMS Doctoral Consortium Fellow	2022, 2023
Haring Symposium Fellow	2023
Winner, Amazon Research Awards Spring/Summer 2022 ($18,000)	2022

*Abstracts available at the end.

TEACHING EXPERIENCES

Designer & Instructor, University of Maryland
AI-Proficiency Workshop for Business Undergraduate   Spring/Summer 2025

Instructor, University of Maryland
Marketing Research Methods (undergraduate, rating 3.3/4.0)   Fall 2023, Spring 2025

Teaching Assistant, University of Maryland
Advanced Marketing Analytics (MS), *Professor Michel Wedel*   Fall 2021, 2022
CRM Analytics (MS), *Professor David Godes*   Spring 2022
Market Forcasting (MBA/MS), *Professor Wendy Moe*   Fall 2021
Retail Management (Undergraduate), *Professor Jie Zhang*   Fall 2020

CONFERENCE PRESENTATIONS

AI in Management Conference, University of Southern California   2025
ISMS Marketing Science Conference, Sydney   2024
BizAI Conference, University of Texas at Dallas   2024
Marketing Dynamics Conference, Northeastern University (Best Paper Award in AI track)   2023
Haring Symposium, Indiana University   2023

SELECTED COURSEWORK

Microeconomics I & II
Econometrics I, II & IV
Empirical Microeconomics
Bayesian Data Analysis
Empirical Industrial Organization
Machine Learning for Business Research

SOFTWARE SKILLS

Python, R, C++, SQL, Pytorch, Stan, AWS

REFERENCES

P. K. Kannan (Committee Chair)   Liye Ma
Dean's Chair in Marketing Science   Professor of Marketing
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ABSTRACTS

"AI for Customer Journey: A Transformer Approach," with P. K. Kannan.
Accepted at *Journal of Marketing Research*.

Abstract: When analyzing a sequence of customer interactions, it is important for firms to understand how these interactions align with key objectives, such as generating qualified customer leads, driving conversion events, or reducing churn. We introduce a transformer-based framework that models customer interactions in a sequence similar to how a sentence is modeled as a sequence of words by Large Language Models. We propose a heterogeneous mixture multi-head self-attention mechanism that captures individual heterogeneity in touchpoint effects. The model identifies self-attention patterns that reflect both population-level trends and the unique relationships between touch points within each customer journey. By assigning varying weights to each attention head, the model accounts for the distinctive aspects of the journey of each user. This results in more accurate predictions, enabling precise targeting and outperforming existing approaches such as hidden Markov models, point process models, and LSTMs. Our empirical application in a multichannel marketing context demonstrates how managers can leverage the model's features to identify high-potential customers for targeting. Extensive simulations further establish the model's superiority over competing approaches. Beyond multichannel marketing, our transformer-based model also has broad applicability in customer journeys across other domains.

"AI-Generated Customer Journeys under Privacy Regulation," with Michael Trusov, Liye Ma and P. K. Kannan

Abstract: Despite the abundance of data in the digital ecosystem, emerging consumer privacy regulations have increasingly constrained firms' ability to access and utilize such information. Notably, the European Union's General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA) have imposed significant limitations on data collection and usage. In parallel, private entities such as Apple and Google have announced or enacted additional restrictions on third-party cookies, further fragmenting the data landscape. These developments have limited firms' capacity for targeting, personalization, and attribution by making individual-level data more sparse and inaccessible. In this paper, we propose a generative AI-based solution that constructs synthetic customer journeys by integrating aggregate-level marketing mix data. This approach enables firms to simulate and evaluate marketing strategies without relying on personally identifiable information. By substituting real individual-level data with synthetic counterparts, our method addresses the challenge of data fragmentation while ensuring firms' compliance with prevailing privacy regulations.

"Visual Competition in Online Marketplaces," with P. K. Kannan and Michel Wedel

Abstract: Online shopping platforms like Amazon often feature a vast assortment of products within a single category. While prior research has primarily examined product assortments through tangible attributes, this paper introduces an attribute-free approach that leverages unstructured product image data for assortment analysis. We propose using the importance-weighted variational lower bound (IWLB) as an approximation of the marginal likelihood for each product image. Our results show that the IWLB effectively captures a product's visual distinctiveness within an assortment: a lower IWLB score indicates a lower likelihood and, consequently, greater visual distinctiveness. Building on this, we derive an entropy-based measure of assortment variety from the IWLB scores. We hypothesize that higher entropy in an assortment correlates with increased consumer-perceived variety and potential choice overload. This paper is the first to examine product assortments through the lens of image distribution and its implications for consumer behavior. Our findings offer actionable insights for retailers managing large assortments, particularly in categories where tangible product features are difficult to extract.