THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

Department of Information Systems, Business Statistics and Operations Management

IS SEMINAR ANNOUNCEMENT

Embedding the Crowd: A Customer-Aware Recommendation Framework for Influencer-Driven Commerce

by

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TIME	10:30 am - 12:00 nn
VENUE	4/F Meeting Room (Room 4047), LSK Business Building

ABSTRACT

Influencer marketing is transforming digital retail by leveraging social media users—known as influencers—to promote products. Yet, matching the right influencers with the right products presents a distinct challenge. Unlike conventional e-commerce that involves only products and customers, influencer-driven commerce (or I-commerce) introduces influencers as intermediaries whose product endorsements guide customer decisions. As such, effective influencer-product matching must account not only for influencers' personal tastes but also for the underlying preferences of their follower bases. To this end, we adopt a design science approach and propose CARI (Customer-Aware Recommender for I-commerce), an AI-powered recommendation framework that integrates customer preferences into influencer–product matching. CARI combines graph neural networks with self-attention mechanisms, enhanced by customer-aware embeddings, to capture the complex triadic interactions among influencers, products, and customers. We validate CARI through both offline experiments and an online randomized field experiment conducted on a leading I-commerce platform in Asia. The field results demonstrate remarkable improvements over the platform's original setting: a 105% increase in the influencer endorsement rate, a 243% rise in the customer purchase rate, and a 153% boost in the spending per endorsement view. Our study provides one of the first field-based validations of AI-powered recommender systems in influencer marketing and offers practical insights for influencer-product matching in platform design.

BIOGRAPHY

Dr. Xuan Bi is an Associate Professor of Information and Decision Sciences at the Carlson School of Management, University of Minnesota. His research interests lie broadly in trustworthy machine learning and AI, with a particular focus on data privacy, AI safety and security, and recommender systems. His works have been published in journals, including Management Science, Information Systems Research, Journal of the American Statistical Association, Annals of Statistics, Journal of Machine Learning Research, INFORMS Journal on Computing, and Journal of Econometrics. And he serves as Associate Editor for the Journal of the American Statistical Association. Dr. Xuan Bi holds a Bachelor of Science in Mathematics from Tsinghua University, and a Ph.D. in Statistics from the University of Illinois at Urbana-Champaign. Prior to joining the University of Minnesota, he was a Postdoctoral Associate at Yale University.