Professor Xin Chen

Depart. Industrial and Enterprise Systems Engineering

University of Illinois at Urbana-Champaign

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Zoom Meeting ID: 970 7656 5407

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Data-Driven Modeling in Online Platforms

Abstract: In this talk, I will present two research projects working with online platforms. In the first project, we introduce a new choice model, the "Contextual Multinomial Logit" model, in which the utility of a presented item to the customer depends on what other items are offered beside it in an assortment. We show empirically that incorporating the context effects may significantly enhance the prediction scores compared with several widely used discrete choice models. In the second project, we build a data-driven optimization model that captures the essential trade-off between short-term revenue and long-term market thickness of advertisement to address the cold start issue for online advertising platforms. We develop the Shadow Bidding with Learning (SBL) algorithm with a provable regret upper bound and collaborate with a large-scale online video sharing platform to implement the algorithm online.

Biography: Xin Chen is a professor at the University of Illinois at Urbana-Champaign. He obtained his PhD from MIT in 2003, MS from Chinese Academy of Sciences in 1998 and BS from Xiangtan University in 1995. His research interest lies in optimization, data analytics, revenue management and supply chain management. He received the Informs revenue management and pricing section prize in 2009. He is the coauthor of the book "The Logic of Logistics: Theory, Algorithms, and Applications for Logistics and Supply Chain Management (Second Edition, 2005, & Third Edition, 2014)", and serving as the department editor of logistics and supply chain management of Naval Research Logistics and an associate editor of several journals including Operations Research, Management Science, and Production and Operations Management.