XIAOCHENG LI

https://xiaocheng-li.github.io/

WORK EXPERIENCE

Assistant Professor, Imperial College Business School *Jan. 2021 - now*
Analytics and Operations

EDUCATION

Ph.D. in Management Science and Engineering, Stanford University *Sept. 2014 - Dec. 2020*
Operations Research Group
Advanced Financial Technologies Laboratory

B.S. in Mathematics and Statistics, Peking University *Sept. 2010 - June 2014*
School of Mathematical Sciences

RESEARCH INTERESTS

Linear programming, revenue management and pricing, dynamic programming, online learning, deep learning applications

PUBLICATIONS

1. **Learning from Stochatically Revealed Preference.**
   Authors: John Birge, Xiaocheng Li, Chunlin Sun[†]
   Outlet: NeurIPS 2022.

2. **Non-stationary Bandits with Knapsacks.**
   Authors: Shang Liu[†], Jiashuo Jiang, Xiaocheng Li
   Outlet: NeurIPS 2022.

3. **An Improved Analysis of LP-based Adaptive Algorithm for Revenue Management.**
   Authors: Guanting Chen, Xiaocheng Li, Yinyu Ye
   Outlet: *Operations Research (Technical Notes)*, 2022

4. **Quantile Markov Decision Processes.**
   Authors: Xiaocheng Li, Huaiyang Zhong, Margaret L. Brandeau
   Outlet: *Operations Research*, 2022

5. **The Symmetry between Arms and Knapsacks: A Primal-Dual Approach for Bandits with Knapsacks.**
   Authors: Xiaocheng Li, Chunlin Sun[†], Yinyu Ye
   Outlet: *ICML* 2021 (Long talk)

6. **Simple and Fast Algorithm for Binary Integer and Online Linear Programming.**
   Authors: Xiaocheng Li, Chunlin Sun[†], Yinyu Ye
   Outlet: *NeurIPS* 2020 (Long version at *Mathematical Programming*)

7. **Online Linear Programming: Dual Convergence, New Algorithms, and Regret Bounds.**
   Authors: Xiaocheng Li, Yinyu Ye
   Outlet: *Operations Research*, 2021

8. **Demand Prediction, Predictive Shipping, and Product Allocation for Large-Scale E-Commerce.**
   Authors: Xiaocheng Li, Yufeng Zheng, Zhenpeng Zhou, Zeyu Zheng
   Outlet: Finalist of *M&SOM* Data-driven Research Challenge, 2018.

9. **Hierarchical Modeling of Seed Variety Yields and Decision Making for Future Planting Plans.**
   Authors: Huaiyang Zhong, Xiaocheng Li, David Lobell, Stefano Ermon, Margaret L. Brandeau
   Outlet: *Environment Systems and Decisions*, 38(4), 458-470, 2018

10. **Data-Driven Ranking and Selection: High-Dimensional Covariates and General Dependence.**
    Authors: Xiaocheng Li, Xiaowei Zhang, Zeyu Zheng
    Outlet: Proceedings of the *Winter Simulation Conference (WSC)* 2018

11. **Recurrent Autoregressive Networks for Online Multi-Object Tracking.**
    Authors: Kuan Fang, Yu Xiang, Xiaocheng Li, Silvio Savarese
    Outlet: Proceedings of IEEE *Winter Conf. on Applications of Computer Vision (WACV)*, 2018

12. **Optimizing Chemical Reactions with Deep Reinforcement Learning.**
    Authors: Zhenpeng Zhou, Xiaocheng Li, Richard N. Zare
    Outlet: *American Chemical Society (ACS) Central Science*, 2017

13. **Deep Gaussian Process for Crop Yield Prediction Based on Remote Sensing Data.**
    Authors: Jiaxuan You, Xiaocheng Li, Melvin Low, David Lobell, Stefano Ermon
    Outlet: Proceedings of *Association for the Advancement of Artificial Intelligence (AAAI)*, 2017

14. **Closed-form Expansion Approach for Pricing Discretely Monitored Variance Swaps.**
    Authors: Chenxu Li, Xiaocheng Li
    Outlet: *Operations Research Letters* 43.4: 450-455, 2015

PAPERS UNDER REVIEW

1. **Maximum Optimality Margin: A Unified Approach for Contextual Linear Programming and Inverse Linear Programming.**
   Authors: Chunlin Sun[†], Shang Liu[†], Xiaocheng Li
   Outlet: Under review at *AISTATS 2023*

2. **Stochastic Inverse Optimization.**
   Authors: John Birge, Xiaocheng Li, Chunlin Sun[†]
   Outlet: In submission to *Management Science*

3. **Neural Choice Model: Parameter Estimation and Assortment Optimization.**
   Authors: Hanzhao Wang[†], Zhongze Cai[†], Xiaocheng Li, Kalyan Talluri
   Outlet: In submission to *Operations Research*

4. **Deep Learning for Choice Modeling.**
   Authors: Zhongze Cai[†], Hanzhao Wang[†], Kalyan Talluri, Xiaocheng Li
   Outlet: Under review at *AAAI 2023*

5. **Learning to Sell a Focal-ancillary Combination.**
   Authors: Hanzhao Wang[†], Xiaocheng Li, Kalyan Talluri
   Outlet: Under review at *Mathematics of Operations Research*

6. **On Dynamic Pricing with Covariates.**
   Authors: Hanzhao Wang[†], Kalyan Talluri, Xiaocheng Li
   Outlet: Major Revision at *Operations Research (Technical Note)*

7. **Online Bin Packing with Known T.**
   Authors: Shang Liu[†], Xiaocheng Li
   Outlet: Major Revision at *Mathematics of Operations Research*

8. **Online Stochastic Optimization with Wasserstein-Based Non-stationarity.**
   Authors: Jiashuo Jiang, Xiaocheng Li, Jiawei Zhang
   Outlet: Second round review at *Management Science*

9. **Dynamic Pricing with External Information and Limited Inventory.**
   Authors: Xiaocheng Li, Zeyu Zheng
   Outlet: Second round review at *Management Science*

[†] denotes advised Ph.D. students.

PH.D. STUDENTS ADVISED

Hanzhao Wang, jointly with Kalyan Talluri (expected graduation - 2025)

Shang Liu (expected graduation - 2026)

Zhongze Cai, jointly with Martin Haugh (expected graduation - 2027)

TEACHING

Machine Learning, MSc Business Analytics (Winter 2021, Winter 2022)

Advanced Machine Learning, MSc Business Analytics Global (Spring 2021, Spring 2022)

Advanced Business Analytics, jointly for MBA, EMBA & GMBA (Spring 2022)

Learning Theory with Applications in Operations Management, Ph.D. core (Spring 2022)

SELECTED AWARDS

Runner Up, INFORMS Decision Analysis Society Best Student Paper Award, 2019

Finalist, *MS&OM* Data-driven Research Challenge, 2018

Second Place, Citadel Data Open Stanford Datathon, October 2018

Third Place, Citadel Data Open West Coast Summer Invitational, July 2018

Winner (Best Solution Prize), World Bank Big Data Innovation Challenge, 2016

Winner, INFORMS Sygenta Crop Data Challenge, 2016