YICHUN HU

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EDUCATION

Cornell University *08/2017 - 05/2023 (expected)*
Ph.D. Candidate in Operations Research
Ph.D. minor in Applied Mathematics

Peking University *09/2013 - 06/2017*
B.S. in Mathematics and Applied Mathematics
B.A. in Economics

RESEARCH INTERESTS

Data-driven Decision-Making, Online/Sequential Learning, Contextual Bandit and Reinforcement Learning, Stochastic Optimization.

RESEARCH PAPERS

Journal Publications

1. **Y. Hu**, N. Kallus, X. Mao (2022) Fast Rates for Contextual Linear Optimization.
   - ***Management Science*** *68(6):4236-4245.*
   - Accepted to Fast Track in Management Science.
2. **Y. Hu**, N. Kallus, X. Mao (2022) Smooth Contextual Bandits: Bridging the Parametric and Non-differentiable Regret Regimes.
   - ***Operations Research*** *(Articles in Advance).*
   - **Finalist, INFORMS Applied Probability Society 2020 Best Student Paper Competition.**
   - Preliminary version appeared in 33rd Conference on Learning Theory (***COLT***), 2020.

Under Revision

3. **Y. Hu**, N. Kallus, M. Uehara. Fast Rates for the Regret of Offline Reinforcement Learning.
   - Minor Revision at ***Mathematics of Operations Research***.
   - Preliminary version appeared in 34th Conference on Learning Theory (***COLT***), 2021.
   - Invited for presentation at Online RL Theory Seminar.
4. **Y. Hu**, N. Kallus. DTR Bandit: Learning to Make Response-Adaptive Decisions with Low Regret.
   - Under 2nd-round Review after Major Revision at ***Journal of the American Statistical Association***.

Conference Papers

5. M. Garrard, H. Wang, B. Letham, Z. Wang, Y. Huang, **Y. Hu**, C. Zhou, N. Zhou, E. Bakshy (2021) Practical Policy Optimization with Personalized Experimentation.
   - *NeurIPS Workshop on Causal Inference Challenges in Sequential Decision Making.*

SELECTED HONORS

Selected for the Rising Scholars Conference at Chicago Booth	*2022*
Selected for the Cornell ORIE Young Researchers Workshop	*2022*
Finalist, Applied Probability Society Best Student Paper Competition, INFORMS	*2020*
Sherri Koenig Stuewer Graduate Fellowship, Cornell University	*2018*
Excellent Graduate Award, Peking University	*2017*

INDUSTRY EXPERIENCE

Facebook (Meta) *Menlo Park, CA (Remote)*
Research Engineer Intern, Core Data Science (Adaptive Experimentation) *05/2021-08/2021*
• Researched on multi-objective contextual bandit learning and value model tuning in personalized experiments. Resulted in a NeurIPS workshop paper.
• Proposed algorithm has been launched in Facebook's personalized experimentation platform.

Google *Mountain View, CA (Remote)*
Data Scientist Intern, Google Play *05/2020-08/2020*
• Researched on causal methods to analyze the impact of app usage on the retention rate of Google Play Pass.
• Wrote a practitioner-friendly tech report for response curve analysis and treatment effect estimation.

TEACHING EXPERIENCE

Cornell University, Teaching Assistant
CS 5785: Applied Machine Learning *Fall 2019*
ORIE 4360: A Mathematical Examination of Fair Representation *Fall 2018*
ORIE 3510: Introduction to Engineering Stochastic Processes I *Spring 2018*
ORIE 5600: Financial Engineering with Stochastic Calculus I *Fall 2017*

PROFESSIONAL SERVICE

• **Journal Reviewer**: Operations Research, Journal of Machine Learning Research, Transactions on Machine Learning Research
• **Conference Reviewer & PC Member**: International Conference on Machine Learning (ICML) 2020-2022, International Conference on Learning Representations (ICLR) 2021, International Conference on Artificial Intelligence and Statistics (AISTATS) 2021-2023, Conference on Neural Information Processing Systems (NeurIPS) 2021-2022, ACM conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO) 2022, NeurIPS Workshop on Causal Inference Challenges in Sequential Decision Making 2021
• **Session Chair**: INFORMS 2020 General Session (Stochastic Bandits)
• Cornell University ORGA (Operations Research Graduate Association) Tech Liaison *2019-2020*

INVITED PRESENTATIONS

Fast Rates for Contextual Linear Optimization
INFORMS Annual Meeting, Indianapolis, IN *10/2022*
Cornell ORIE Young Researchers Workshop, Ithaca, NY *10/2022*
NYC Operations Day (Poster), New York, NY *04/2022*
ORIE PhD Colloquium at Cornell Tech, New York, NY *04/2022*
INFORMS Optimization Society Conference, Greenville, SC *03/2022*
Cornell ORIE Young Researchers Workshop (Poster), Ithaca, NY *10/2021*

Fast Rates for the Regret of Offline Reinforcement Learning
RL Theory Seminar, Virtual *11/2021*
INFORMS Annual Meeting, Anaheim, CA *10/2021*
16th INFORMS Workshop on Data Mining and Decision Analytics, Anaheim, CA *10/2021*
34th Annual Conference on Learning Theory (COLT 2021), Boulder, CO *08/2021*

DTR Bandit: Learning to Make Response-Adaptive Decisions with Low Regret
INFORMS Annual Meeting, Virtual *11/2020*
15th INFORMS Workshop on Data Mining and Decision Analytics, Virtual *11/2020*

Smooth Contextual Bandits: Bridging the Parametric and Non-differentiable Regret Regimes
Rising Scholars Conference (Chicago Booth), Virtual *11/2022*
33rd Annual Conference on Learning Theory (COLT 2020), Virtual *07/2020*
INFORMS Annual Meeting, Seattle, WA *10/2019*
14th INFORMS Workshop on Data Mining and Decision Analytics, Seattle, WA *10/2019*
Cornell ORIE Young Researchers Workshop, Ithaca, NY *10/2019*

SELECTED GRADUATE COURSES

Foundations of Game Theory and Mechanism Design, Engineering Societal Systems, Theory of Causal Inference and Decision-Making, Data-Driven Optimization, Machine Learning Theory, Applied Stochastic Processes, Probability, Probability Theory II, Statistical Principles, Mathematical Programming, Convex Analysis, Combinatorial Optimization, Queueing Theory, Selected Topics in Applied OR (Approximate Dynamic Programming), Selected Topics in Applied Probability (Optimal Stopping, Information, Learning, Control).

OTHERS

- *Programming*: Python (PyTorch), C/C++, R, Julia.
- *Languages*: Chinese (native), English (fluent), Japanese (basic)
- *Interests*: Books, Music, Nature, Soccer.