Masatoshi Uehara

Curriculum Vitae

Department of Computer Science
Cornell University
✉ *mu223@cornell.edu*
My Webpage

Education

2020–2023+ **PhD, Computer Science (I transferred my PHD status from Harvard to Cornell)** , *Cornell University*, NYC (Cornell tech).
Reinforcement learning, Online learning, Causal Inference

2017–2020 : **Master of Science, Statistics**, *Harvard University*, Cambrdige.

2013–2017: **Bachelor of Engineering, Applied Mathematics & Computer Science**, *The University of Tokyo*, Tokyo.

Publications

† means alphabetical order. ∗ means I am the co-first/corresponding author.

Journal Articles

2020 Nathan Kallus and **Uehara, Masatoshi**†,∗. Double reinforcement learning for efficient off-policy evaluation in markov decision processes. ***JMLR*** *(Short version is accepted in* ***ICML 2020****)*, 2020.

In Conference Proceedings

2021 Nathan Kallus, Yuta Saito, and **Uehara, Masatoshi**†,∗. Optimal off-policy evaluation from multiple logging policies. In ***ICML***, 2021.

2021 Yichun Hu, Nathan Kallus, and **Uehara, Masatoshi**†. Fast rates for the regret of offline reinforcement learning. ***COLT***, 2021.

2020 **Uehara, Masatoshi**, Takeru Matsuda, and Jae Kwang Kim. Imputation estimators for unnormalized models with missing data. In ***AISTATS***, 2020.

2020 **Uehara, Masatoshi**, Masahiro Kato, and Shota Yasui. Off-policy evaluation and learning for external validity under a covariate shift. In ***NeurIPS***, 2020.

2020 **Uehara, Masatoshi**, Takafumi Kanamori, Takashi Takenouchi, and Takeru Matsuda. Unified estimation framework for unnormalized models with statistical efficiency. ***AISTATS***, 2020.

2020 **Uehara, Masatoshi**, Jiawei Huang, and Nan Jiang. Minimax weight and q-function learning for off-policy evaluation. In ***ICML***, 2020.

2020 Nathan Kallus and **Uehara, Masatoshi**†,∗. Statistically efficient off-policy policy gradients. In ***ICML***, 2020.

2020 Nathan Kallus and **Uehara, Masatoshi**†,∗. Doubly robust off-policy value and gradient estimation for deterministic policies. ***NeurIPS***, 2020.

2019 Nathan Kallus and **Uehara, Masatoshi**†,∗. Intrinsically efficient, stable, and bounded off-policy evaluation for reinforcement learning. ***NeurIPS***, 2019.

Unpublished Articles

2021 **Uehara, Masatoshi**, Masaaki Imaizumi, Nan Jiang, Nathan Kallus, Wen Sun, and Tengyang Xie. Finite sample analysis of minimax offline reinforcement learning: Completeness, fast rates and first-order efficiency. *arXiv preprint arXiv:2102.02981*, 2021.

2021 Nathan Kallus, Xiaojie Mao, and **Uehara, Masatoshi**†. Causal inference under unmeasured confounding with negative controls: A minimax learning approach. *arXiv preprint arXiv:2103.14029*, 2021.

2021 Jonathan D Chang, **Uehara, Masatoshi***, Dhruv Sreenivas, Rahul Kidambi, and Wen Sun. Mitigating covariate shift in imitation learning via offline data without great coverage. *arXiv preprint arXiv:2106.03207*, 2021.

2020 Nathan Kallus and **Uehara, Masatoshi**†,*. Efficient evaluation of natural stochastic policies in offline reinforcement learning. *arXiv preprint arXiv:2006.03886*, 2020.

2020 Nathan Kallus, Xiaojie Mao, and **Uehara, Masatoshi**†. Localized debiased machine learning: Efficient estimation of quantile treatment effects, conditional value at risk, and beyond, 2020.

2019 Takeru Matsuda, **Uehara, Masatoshi**, and Aapo Hyvarinen. Information criteria for non-normalized models. *Minor Revision (JMLR)*, 2019.

2019 Nathan Kallus and **Uehara, Masatoshi**†,*. Efficiently breaking the curse of horizon: Double reinforcement learning in infinite-horizon processes. *Major Revision (Operations research)*, 2019.

2018 **Uehara, Masatoshi** and Jae Kwang Kim. Semiparametric response model with nonignorable nonresponse. *arXiv preprint arXiv:1810.12519*, 2018.

2016 **Uehara, Masatoshi**, Issei Sato, Masahiro Suzuki, Kotaro Nakayama, and Yutaka Matsuo. Generative adversarial nets from a density ratio estimation perspective. *arXiv preprint arXiv:1610.02920*, 2016.

Fellowships & Awards

2017 –present ***Masayoshi Son Foundation Fellowship*** as a talented researcher Scholar. The support includes living fee/tuition fee/travelling fee.

2017-2019 ***Funai Overseas Scholarship*** as a talented PHD researcher Scholar in Japan. The support includes living fee/tuition fee.

Computer skills

Programming Languages: Python (PyTorch), R, C, C++ (Open MP, MPI, Open CV)

Teaching Assistantship

Spring, 2019 : **STAT 171: Intro to Stochastic Processes**, Harvard.

Fall, 2018 : **STAT 139: Linear Model**, Harvard.

Services

Conferences: ICML (2020,2021), Neurips (2020,2021), AISTATS (2020,2021)
Journals: Journal of Machine Learning Research, Annals of Statistics, Journal of the American Statistical Association, Biometrika, Annals of the Institute of Statistical Mathematics