

Yuta Saito

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Research Interests

My research lies at the intersection of machine learning and causal inference called *counterfactual learning*. I am interested in the counterfactual nature of logged bandit feedback obtained from interactive systems, and ways of using biased real-world datasets to achieve safe automated decision making.

Education

2016 - Present **Tokyo Institute of Technology**
B.Eng. in Industrial Engineering and Economics
Research Field: Counterfactual Inference, Off-Policy Evaluation, Information Retrieval

Publications

International Conference Proceedings (refereed)

1. [Yuta Saito](#). “**Doubly Robust Estimator for Ranking Metrics with Post-Click Conversions**”. In *Proceedings of the 14th ACM Conference on Recommender Systems (RecSys2020)*, 2020.
2. [Yuta Saito](#). “**Unbiased Pairwise Learning from Biased Implicit Feedback**”. In *Proceedings of 6th ACM SIGIR International Conference on the Theory of Information Retrieval (ICTIR2020)*, 2020.
3. [Yuta Saito](#) and Shota Yasui. “**Counterfactual Cross-Validation: Stable Model Selection Procedure for Causal Inference Models**”. In *Proceedings of 37th International Conference on Machine Learning (ICML2020)*, 2020.
4. [Yuta Saito](#). “**Asymmetric Tri-training for Debiasing Missing-Not-At-Random Explicit Feedback**”. In *Proceedings of the 43rd International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR2020)*, 2020.
5. [Yuta Saito](#), Gota Morishita, and Shota Yasui. “**Dual Learning Algorithm for Delayed Conversions**”. In *Proceedings of the 43rd International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR2020)*, 2020 (short paper).
6. [Yuta Saito](#), Hayato Sakata, and Kazuhide Nakata. “**Cost-Effective and Stable Policy Optimization Algorithm for Uplift Modeling with Multiple Treatments**”. In *Proceedings of the 2020 SIAM International Conference on Data Mining (SDM2020)*, 2020.
7. [Yuta Saito](#), Suguru Yaginuma, Yuta Nishino, Hayato Sakata, and Kazuhide Nakata. “**Unbiased Recommender Learning from Missing-Not-At-Random Implicit Feedback**”. In *Proceedings of the 13th International Conference on Web Search and Data Mining (WSDM2020)*, 2020.
8. [Yuta Saito](#), Hayato Sakata, and Kazuhide Nakata. “**Doubly Robust Prediction and Evaluation Methods Improve Uplift Modeling for Observational Data**”. In *Proceedings of the 2019 SIAM International Conference on Data Mining (SDM2019)*, 2019.

International Conference Workshop Papers (refereed)

1. Yuta Saito, Shunsuke Aihara, Megumi Matsutani, and Yusuke Narita. “**A Large-scale Open Dataset for Bandit Algorithms.**” *RecSys 2020 Workshop on Bandit and Reinforcement Learning from User Interactions (REVEAL2020)*, 2020 (**Oral Presentation**).
2. Yuta Saito, Takuma Udagawa, and Kei Tateno. “**Data-Driven Off-Policy Estimator Selection: An Application in User Marketing on An Online Content Delivery Service.**” *RecSys 2020 Workshop on Bandit and Reinforcement Learning from User Interactions (REVEAL2020)*, 2020.
3. Yuta Saito, Shunsuke Aihara, Megumi Matsutani, and Yusuke Narita. “**A Large-scale Open Dataset for Bandit Algorithms.**” *ICML 2020 Workshop on Real World Experiment Design and Active Learning (RealML2020)*, 2020.
4. Daisuke Moriwaki, Yuta Hayakawa, Isshu Munemasa, Yuta Saito, and Akira Matsui. “**Unbiased Lift-based Bidding System.**” In *Proceedings of the 2020 AdKDD&TargetAd Workshop, held in conjunction with the 26th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD2020)*, 2020.
5. Masahiro Nomura and Yuta Saito (equal contribution). “**Multi-Source Unsupervised Hyperparameter Optimization**”. *ICML 2020 Workshop on Automated Machine Learning (AutoML2020)*, 2020.
6. Yuta Saito. “**Offline Recommender Learning Meets Unsupervised Domain Adaptation**”. *The first forum for newcomers to ML co-located with NeurIPS (NewInML2019)*, 2019.

Preprints

1. Nathan Kallus, Yuta Saito, and Masatoshi Uehara. “**Optimal Off-Policy Evaluation from Multiple Logging Policies.**” *arXiv preprint arXiv:2010.11002*, 2020.
2. Yuta Saito, Shunsuke Aihara, Megumi Matsutani, and Yusuke Narita. “**Large-scale Open Dataset, Pipeline, and Benchmark for Bandit Algorithms.**” *arXiv preprint arXiv:2008.07146*, 2020.

Work Experience

Jul 2020 - Present	Hanjumu-kaso Co., Ltd. Director of Science (under an outsourcing agreement)
Apr 2020 - Present	CyberAgent, Inc., AI Lab Research Partner (under an outsourcing agreement)
Apr 2020 - Present	SMN Corporation, a.i lab. Research Partner (under an outsourcing agreement)
Apr 2020 - Sep 2020	Sony Corporation Research Partner (under an outsourcing agreement)
Feb 2020 - Present	ZOZO Technologies, Inc. Research Partner (under an outsourcing agreement)

Scholarships and Awards

2021 - 2023	Funai Overseas Scholarship Doctoral research fellowship by the Funai Foundation (a private foundation in Japan). Granted two full years of tuition plus a monthly stipend of \$2,500 for living expenses.
2020	The SIGIR 2020 Student Travel Grant Program

Involved Research Projects

- **Open Bandit Project** (<https://github.com/st-tech/zr-obp>)

Open Bandit Project is an open-source research project that aims to enable realistic and reproducible experiments on bandit algorithms and their off-policy evaluation. The projects consists of a large-scale real-world dataset called *Open Bandit Dataset* and Python software called *Open Bandit Pipeline*.

Professional Service

Conference Reviewing

AISTATS 2021

Languages

Japanese (native), English (TOEFL iBT: 105)