Yuta Saito

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Last Updated	November 25, 2020

Research Interests

My research lies at the intersection of statistical 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 (RecSys)*, 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 (ICTIR)*, 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 (ICML)*, 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 (SIGIR)*, 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 (SIGIR)*, 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 (SDM)*, 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 (WSDM)*, 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 (SDM)*, 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 (REVEAL)*, 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 (REVEAL)*, 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 (RealML)*, 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*, 2020.

5. Masahiro Nomura and **Yuta Saito** (equal contribution). "Multi-Source Unsupervised Hyperparameter Optimization". *ICML 2020 Workshop on Automated Machine Learning (AutoML)*, 2020.

6. **Yuta Saito**. "Offline Recommender Learning Meets Unsupervised Domain Adaptation." *The first forum for newcomers to ML co-located with NeurIPS (NewInML)*, 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)