

# Yuta Saito

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## Research Interests

My research lies at the intersection of machine learning and causal inference called counterfactual machine 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 assist better decision making.

## Education

**2016 - Present** **Tokyo Institute of Technology**  
B.Eng. in Industrial Engineering and Economics  
Research Field: Machine Learning, Causal Inference, Information Retrieval

## Publication (peer-reviewed)

1. **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 (to appear).
2. **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.
3. **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.

## Workshop Papers (peer-reviewed)

1. **Yuta Saito**. Unsupervised Domain Adaptation Meets Offline Recommender Learning. *NewInML session (co-located with NeurIPS 2019)*.
2. **Yuta Saito**, Gota Morishita, and Shota Yasui. Dual Learning Algorithm for Delayed Feedback in Display Advertising. *NeurIPS 2019 Workshop on Causal Machine Learning*.
3. **Yuta Saito**. Unbiased Pairwise Learning from Implicit Feedback. *NeurIPS 2019 Workshop on Causal Machine Learning (Spotlight Presentation)*.
4. **Yuta Saito** and Shota Yasui. Counterfactual Cross-Validation. *ACM RecSys 2019 Workshop on Reinforcement and Robust Estimators for Recommendation (REVEAL)*.

## Preprints and Under Review Papers

1. **Yuta Saito**, Gota Morishita, and Shota Yasui. Dual Learning Algorithm for Delayed Conversions. *Under Review*.
2. **Yuta Saito**. Offline Recommender Learning Meets Unsupervised Domain Adaptation. *Under Review*.
3. **Yuta Saito**. Asymmetric Tri-training for Debiasing Missing-Not-At-Random Explicit Feedback. *Under Review*.
4. **Yuta Saito**. Doubly Robust Estimator for Ranking Metrics with Post-Click Conversions. *Under Review*.
5. **Yuta Saito**. Unbiased Pairwise Learning from Biased Implicit Feedback. *Under Review*.
6. **Yuta Saito** and Shota Yasui. Counterfactual Cross-Validation: Stable Model Selection Procedure for Causal Inference Models. *arxiv preprint arXiv:1909.05299*.

## Work and Internship Experiences

- Feb 2020 - Present** ZOZO Technologies, Inc., Aoyama, Tokyo, Japan  
*Research Partner (under an outsourcing agreement)*  
Empirical study on off-policy evaluation and its application to a large-scale fashion e-commerce recommender system.
- Nov 2019 - Present** Jinch Co., Ltd., Suginami-ku, Tokyo, Japan  
*Part-time Researcher*  
Research on off-policy evaluation (joint with Yusuke Narita).
- Jun 2019 - Present** CyberAgent, Inc., AI Lab, Shibuya, Tokyo, Japan  
*Research Internship*  
Research on Counterfactual Machine Learning.
- Mar 2019 - Jun 2019** Nakata Lab, Tokyo Institute of Technology, Meguro-ku, Tokyo, Japan.  
*Research Assistant*  
Research on Uplift Modeling.
- Dec 2017 - Sep 2019** SMN Corporation, a.i lab., Osaki, Tokyo, Japan.  
*Research Internship*  
Research on Uplift Modeling and Recommender Systems.

## Professional Activities

### Conference Oral Presentations

- Feb 2020** International Conference on Web Search and Data Mining (WSDM)  
*Unbiased Recommender Learning from Missing-Not-At-Random Implicit Feedback*
- Dec 2019** NeurIPS Workshop on Causal Machine Learning  
*Unbiased Pairwise Learning from Implicit Feedback*
- May 2019** SIAM International Conference on Data Mining (SDM)  
*Doubly Robust Prediction and Evaluation Methods Improve Uplift Modeling for Observational Data*

## **Selected Invited Talks**

- Oct 2019**     Mitsubishi UFJ Research and Consulting / Metrics Work Consultants Inc., Minato-ku, Tokyo, Japan  
*Intesection of Causal Inference and Machine Learning: An Overview*
- Jul 2019**     Sony Corporation., Osaki, Tokyo, Japan  
*Recent Topics on Counterfactual Machine Learning*
- May 2019**     CyberAgent, Inc., AdTech Studio., Shibuya, Tokyo, Japan  
*Unsupervised Domain Adaptation and Its Application to CTR Prediction*

## **Languages**

Japanese (native), English

## **Referees**

Available upon request.