

YUTA SAITO

Phone: (+81)9031151920 ◇ EMail: saito.y.bj@m.titech.ac.jp ◇ Website: <https://usaito.github.io>

EDUCATION

Tokyo Institute of Technology, Tokyo

Apr 2016 - present

Bachelor of Engineering

Industrial Engineering and Economics.

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.

PUBLICATIONS (PEER-REVIEWED)

1. **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 ACM International Conference on Web Search and Data Mining (WSDM20), Houston, Texas, USA, Feb. 3-7, 2020.
2. **Yuta Saito**, “[Unsupervised Domain Adaptation Meets Offline Recommender Learning](#)”, NewInML session (co-located with NeurIPS), Vancouver, British Columbia, Canada, Dec. 09, 2019.
3. **Yuta Saito**, Gota Morishita, and Shota Yasui, “[Dual Learning Algorithm for Delayed Feedback in Display Advertising](#)”. NeurIPS Workshop on Causal Machine Learning, Vancouver, British Columbia, Canada, Dec. 14, 2019.
4. **Yuta Saito**, “Unbiased Pairwise Learning from Implicit Feedback”. NeurIPS Workshop on Causal Machine Learning, Vancouver, British Columbia, Canada, Dec. 14, 2019. (**Spotlight Presentation**)
5. **Yuta Saito** and Shota Yasui, “[Counterfactual Cross-Validation](#)”. ACM RecSys Workshop on Reinforcement and Robust Estimators for Recommendation (REVEAL), Copenhagen, Denmark, Sep. 20, 2019.
6. **Yuta Saito**, Hayato Sakata, and Kazuhide Nakata, “[Doubly Robust Prediction and Evaluation Methods Improve Uplift Modeling for Observational Data](#)”. In Proceedings of the SIAM International Conference on Data Mining (SDM19), Calgary, Alberta, Canada, May. 2-4, 2019. (**Oral Presentation**)

PREPRINTS

1. **Yuta Saito** and Shota Yasui, “[Counterfactual Cross-Validation: Effective Causal Model Selection from Observational Data](#)”, *arXiv:1909.05299*.
2. **Yuta Saito**, “[Eliminating Bias in Recommender Systems via Pseudo Labeling](#)”, *arXiv:1910.01444*.
3. **Yuta Saito**, Hayato Sakata, and Kazuhide Nakata, “[Cost-Effective and Stable Policy Optimization Algorithm for Uplift Modeling with Multiple Treatments](#)”.

WORK & INTERNSHIP EXPERIENCES

ZOZO Technologies, Inc.*Nov 2019 - present**Research Internship*

- Empirical studies on off-policy evaluation.

Jinch Co., Ltd.*Nov 2019 - present**Part-time Researcher*

- Empirical studies on off-policy evaluation.
- Work with Prof. Yusuke Narita (Yale Univ.).

CyberAgent, Inc. AI Lab*Jun 2019 - present**Research Internship*

- Model selection for causal inference models [[RecSys'19 WS](#)]
- Offline learning with delayed feedback data in display advertising [[NeurIPS'19 WS](#)]

Nakata Lab, Tokyo Institute of Technology*Apr 2019 - present**Research Assistant*

- Treatment allocation optimization

So-net Media Networks Corp., a.i lab.*Dec 2017 - Sep 2019**Research Internship*

- Unbiased recommender learning from implicit feedback [[WSDM'20](#)]
- Offline lift-effect prediction using observational data [[SDM'19](#)]

Cancer Scan*Oct 2017 - Feb 2018**Data Science Internship*

- Treatment optimization in health marketing.

PERSONAL RESEARCH PROJECTS

Unsupervised Domain Adaptation Meets Offline Recommender Learning.*2019*

- I constructed a new theory of recommendation with missing-not-at-random feedback using the theoretical framework of unsupervised domain adaptation. The proposed method can alleviate bias and solve the limitations of previously proposed causality-based approaches. [[NeurIPS'19 NewInML](#)]

Eliminating Bias in Recommender Systems via Pseudo-Labeling.*2019*

- I applied a well-performing asymmetric tri-training framework in unsupervised domain adaptation to the missing-not-at-random recommendation. I also conducted a theoretical analysis of the strength of the proposed prediction method in the recommendation setting.

Unbiased Pairwise Learning from Implicit Feedback.*2019*

- I developed an unbiased pairwise loss function and a corresponding ranking algorithm. The proposed algorithm empirically outperforms the existing baseline methods, including matrix factorization and Bayesian personalized ranking. [[NeurIPS'19 WS](#)]

AWARDS

2nd place: DATA DEMOCRACY DAYS*Apr 2018**@ Culture Convenience Club Co., Ltd.*

- Proposed a relationship app using the matrix completion technique.

COMPETENCES

Programming and Libraries: Python, R, Matlab, SQL, Google BigQuery, L^AT_EX, Scikit-Learn, Tensorflow, EconML

Languages: English, Japanese