

EDUCATION

- **The University of Tokyo** Apr. 2019 – Mar. 2022
Ph.D. in Computer Science (Supervisor: Prof. Masashi Sugiyama)
- **The University of Tokyo** Apr. 2017 – Mar. 2019
M.Sc. in Computer Science (Supervisor: Prof. Masashi Sugiyama)
- **The University of Tokyo** Apr. 2013 – Mar. 2017
B.Sc. in Information Science (Supervisor: Prof. Masashi Sugiyama)

JOURNAL PUBLICATION

1. Shimada, T., **Bao, H.**, Sato, I., and Sugiyama, M. Classification from Pairwise Similarities/Dissimilarities and Unlabeled Data via Empirical Risk Minimization. *Neural Computation*, 33(5):1234–1268, 2021.
2. **Bao, H.**, Sakai, T., Sato, I., and Sugiyama, M. Convex Formulation of Multiple Instance Learning from Positive and Unlabeled Bags. *Neural Networks* 105:132–141, 2018.

CONFERENCE PROCEEDINGS

1. **Bao, H.**, Nagano, Y., and Nozawa, N. On the Surrogate Gap between Contrastive and Supervised Losses. In *Proceedings of 39th International Conference on Machine Learning (ICML2022)*, PMLR 162:1585–1606, 2022. (Equal contribution & alphabetical ordering)
2. **Bao, H.***, Shimada, T.*, Xu, L., Sato, I., and Sugiyama, M. Pairwise Supervision Can Provably Elicit a Decision Boundary. In *Proceedings of 25th International Conference on Artificial Intelligence and Statistics (AISTATS2022)*, PMLR 151:2618–2640, 2022. (* Equal contribution)
3. Dan, S., **Bao, H.**, and Sugiyama, M. Learning from Noisy Similar and Dissimilar Data. In *Proceedings of the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECMLPKDD2021)*, LNCS 12976:233–249, 2021.
4. **Bao, H.** and Sugiyama, M. Fenchel-Young Losses with Skewed Entropies for Class-posterior Probability Estimation. In *Proceedings of 24th International Conference on Artificial Intelligence and Statistics (AISTATS2021)*, PMLR 130:1648–1656, 2021.
5. Nordström, M., **Bao, H.**, Löfman, F., Hult, H., Maki, A., and Sugiyama, M. Calibrated Surrogate Maximization of Dice. In *Proceedings of 23rd International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI2020)*, LNCS 12264:269–278, 2020.
6. **Bao, H.**, Scott, C., and Sugiyama, M. Calibrated Surrogate Losses for Adversarially Robust Classification. In *Proceedings of 33rd Annual Conference on Learning Theory (COLT2020)*, PMLR 125:408–451, 2020.
7. **Bao, H.** and Sugiyama, M. Calibrated Surrogate Maximization of Linear-fractional Utility in Binary Classification. In *Proceedings of 23rd International Conference on Artificial Intelligence and Statistics (AISTATS2020)*, PMLR 108:2337–2347, 2020.
8. Wu, Y.-H., Charoenphakdee, N., **Bao, H.**, Tangkaratt, V., and Sugiyama, M. Imitation Learning from Imperfect Demonstration. In *Proceedings of International Conference on Machine Learning (ICML2019)*, PMLR 97:6818–6827, 2019.
9. Kuroki, S., Charoenphakdee, N., **Bao, H.**, Honda, J., Sato, I., and Sugiyama, M. Unsupervised Domain Adaptation Based on Source-guided Discrepancy. In *Proceedings of AAAI Conference on Artificial Intelligence (AAAI2019)*, 33 01:4122–4129, 2019.
10. **Bao, H.**, Niu, G., and Sugiyama, M. Classification from Pairwise Similarity and Unlabeled Data. In *Proceedings of International Conference on Machine Learning (ICML2018)*, PMLR 80:461–470, 2018.
11. **Bao, H.**, Usui, T., and Matsuura, K. Improving Optimization Level Estimation of Malware by Feature Selection. In *Proceedings of the 32nd Symposium on Cryptography and Information Security*, 2015.

AWARDS & FUNDINGS

- **Kyoto University Hakubi Fellowship** *Apr. 2022 – Sep. 2026*
Research fellowship and assistant professor position at Kyoto University
- **Best Award at IBIS2020** *Nov. 2020*
Presentation at the 23rd Information-Based Induction Sciences Workshop (IBIS2020)
- **Student Presentation Award at IBIS2019** *Nov. 2019*
Presentation at the 22nd Information-Based Induction Sciences Workshop (IBIS2019)
- **JSPS Research Fellowship DC1** *Apr. 2019 – Mar. 2022*
Japanese domestic Ph.D. fellowship
- **Best Poster Award at JIML2018** *Nov. 2018*
Poster presentation at Japan-Israel Machine Learning Meeting (JIML2018)
- **JST ACT-I** *Oct. 2018 – Mar. 2020*
Research funding sponsored by Japan Science and Technology Agency (JST)
- **JST AIP Challenge Program (Best Award)** *Aug. 2017 – Mar. 2018*
Research funding sponsored by Japan Science and Technology Agency (JST)

WORK EXPERIENCES & ACTIVITIES

- **RIKEN Center for Advanced Intelligence Project (Tokyo, Japan)** *Apr. 2017 – Mar. 2022*
Research assistant in the imperfect information learning team
- **University of Michigan (Ann Arbor, MI, USA)** *Oct. 2019 – Feb. 2020*
Visiting scholar (Supervisor: Prof. Clayton Scott)
- **Preferred Networks, Inc (Tokyo, Japan)** *Apr. 2017 – Dec. 2018*
Part-time engineer working on distributed deep learning
- **Preferred Networks, Inc (Tokyo, Japan)** *Sep. 2016 – Sep. 2016*
Internship working on generating 3D motions

PROFESSIONAL ACTIVITIES

- **Journal Reviewer:** Journal of Machine Learning Research
- **Conference Reviewer:** NeurIPS (2019–2022), ICML (2019–2022), AISTATS (2019–2022), UAI (2021–2022), AAAI (2019), ICMLA (2021)