

Ikko YAMANE

POSTDOCTORAL RESEARCHER

Place du Maréchal de Lattre de Tassigny 75775 PARIS Cedex 16 FRANCE

✉ ikko.yamane@dauphine.psl.eu | 🏠 <https://i-yamane.github.io> | 📧 i-yamane | 🐙 yamane.ikko

Research Experience

- ENSAI/CREST** Sep. 2022–Present
Assistant Professor (Enseignant-Chercheur) in Computer Science
Paris, France
- Research Topics: Learning from weak supervision, causal inference, multitask learning
- LAMSADE, Université Paris Dauphine-PSL** Oct. 2020–Aug. 2022
Postdoctoral researcher
Paris, France
- Adviser: Prof. Florian Yger
 - Research Topics: Learning from weak supervision, causal inference
- Graduate School of Frontier Sciences, The University of Tokyo** Apr. 2019–Aug. 2020
Postdoctoral researcher
Tokyo, Japan
- Adviser: Prof. Masashi Sugiyama
 - JST CREST project on Materialized Graphics for Multidimensional Interaction
 - Research Topics: Learning from weak supervision, transfer learning, psychophysics
- LAMSADE, Université Paris Dauphine-PSL** May. 2016–Aug. 2016
Research visit
Paris, France
- Developed a novel method for multi-task principal component based on optimization on Grassman manifold.
 - The paper on this topic has been accepted to ACML 2016.
- LAMSADE, Université Paris Dauphine-PSL** May. 2017–Jul. 2017
Research visit
Paris, France
- Developed a novel method for uplift modeling under weak supervision.
 - The paper on this topic has been accepted to NeurIPS 2018.
- Gatsby Computational Neuroscience Unit, University College London** Aug. 2018
Research visit
London, U.K.
- Visited Prof. Aapo Hyvärinen and Prof. Hiroaki Sasaki.
 - Had discussions on causal inference and independence test.

Education

- Graduate School of Frontier Sciences,
The University of Tokyo** Apr. 2015–Mar. 2019
Ph.D. of Complexity Science and Engineering
Tokyo, Japan
- Adviser: Prof. Masashi Sugiyama
 - Research Topics: **Multi-task learning, uplift modeling, dimensionality reduction, clustering**
 - Keywords: **Machine learning, statistics, causal inference**
- Graduate School of Information Science and Engineering,
Tokyo Institute of Technology** Apr. 2013–Mar. 2015
M.Eng. of in Computer Science
Tokyo, Japan
- Adviser: Prof. Masashi Sugiyama
 - Research Topics: **Multi-task Learning, dimensionality reduction, clustering**
 - Keywords: **Machine learning, statistics**
- Tokyo Institute of Technology** Apr. 2009 – Mar. 2013
B.Sc. in Information Science
Tokyo, Japan
- Adviser: Prof. Osamu Watanabe, Prof. Akinori Kawachi
 - Research Topic: **Random linear codes**

- Keywords: **Coding theory, randomized algorithms, computational complexity**

Teaching Experience

Université Paris-Dauphine

Data Analysis Course

Paris, France

Sep. 2021–Feb. 2022

- Full responsibility for the whole course including lectures, exercise sessions, and examination. I created all the contents (lecture slides and coding exercises in Jupyter Notebooks).
- The topics covered include linear algebra basics, statistics basics, least-squares, principal component analysis, logistic regression, and data visualization.

Sugiyama-Sato-Honda Lab, University of Tokyo

Organizing Machine Learning Seminars

Tokyo, Japan

April 2019–August 2020

- Organized paper reading research seminars for master/PhD students.

Sugiyama-Sato-Honda Lab, University of Tokyo

Mentoring Master/PhD Students

Tokyo, Japan

April 2016–August 2020

- I partly mentored Tianyi Zhang, a former master student who is currently a PhD student, with his master's thesis. Our paper was accepted to ACML 2020, for which we received the best paper award.
- I would also informally mentor Takashi Ishida, who is a lecturer at the University of Tokyo today, during his master's and PhD programs. We wrote a paper on a regularization method typically effective for over-parametrized models together, which was accepted to ICML 2020

University of Tokyo

Mentoring Master Students for Seminar of Complexity Science and Engineering

Tokyo, Japan

Oct. 2015–Jan. 2016

- I mentored three master students for their presentations in an inter-disciplinary seminar course.

University of Tokyo

Advanced Data Analysis Course (Teaching Assistant)

Tokyo, Japan

Oct. 2015–Jan. 2016

- Teaching assistant for Advanced Data Analysis Course given by Prof. Masashi Sugiyama to master and PhD students at the University of Tokyo in October 2015–January 2016.

Unviersité Paris Dauphine

Lecture in Machine Learning for Economics and Finance

Paris, France

Jun. 4 2022 (Planned)

- I am invited to give a lecture on causality in “Machine Learning for Economics and Finance” of “PSL Intensive Weeks” (<https://data-psl.github.io/intensive-week/>). I am planning to talk about causality in machine learning.

Other Experience

Sugiyama-Sato-Honda Lab., The University of Tokyo

Server Administration

Tokyo, Japan

Apr. 2015–Present

- Installation and configuration of nearly 50 servers/simulation machines (Ubuntu).
- Administrating the machines and mentoring other administrators.

Sugiyama Lab., Tokyo Institute of Technology

Server Administration

Tokyo, Japan

Sep. 2013–Mar. 2015

- Administrated nearly 30 servers/simulation machines (Ubuntu).

Kyoto University

Machine Learning Summer School 2015 Kyoto

Kyoto, Japan

Aug. 2015–Sep. 2015

Yahoo! Japan. Co., Ltd.

Engineering Internship

Tokyo, Japan

Sep. 2015

- Analysis of click log data.
- Won the second place in the final evaluation.

Honors & Awards

Best Paper Award

The 12th Asian Conference on Machine Learning (ACML 2020)

Online

Dec. 2020

AIP Challenge Program

AIP Challenge Network Lab

Tokyo, Japan

Aug. 2019–Mar. 2020

NeurIPS Travel Award

Thirty-second Conference on Neural Information Processing Systems (NeurIPS 2018)

Montréal, Canada

Dec. 2018

Research Fellowship for Young Scientists

The Japan Society for the Promotion of Science (JSPS)

Tokyo, Japan

Apr. 2016–Mar. 2018

The Runner-Up Best Presentation

Yahoo! Japan Internship Program

Tokyo, Japan

Aug. 2015

Publications

CONFERENCE PAPERS

Ikko Yamane, Florian Yger, Jamal Atif, and Masashi Sugiyama. Uplift Modeling from Separate Labels. In *Advances in Neural Information Processing Systems 31 (NeurIPS2018)*, pp. 9949–9959, 2018.

Ikko Yamane, Florian Yger, Maxime Berar, and Masashi Sugiyama. Multitask Principal Component Analysis. In *the 8th Asian Conference on Machine Learning (ACML2016)*, Proceedings of Machine Learning Research, vol. 63, pp. 302–317, 2016.

Takashi Ishida, **Ikko Yamane**, Tomoya Sakai, Gang Niu, and Masashi Sugiyama. Do We Need Zero Training Loss After Achieving Zero Training Error? In *Proceedings of 37th International Conference on Machine Learning (ICML2020)*, vol. 119, pp. 4604–4614, 2020.

Tianyi Zhang, **Ikko Yamane**, Nan Lu, and Masashi Sugiyama. A One-step Approach to Covariate Shift Adaptation. In *Proceedings of the 12th Asian Conference on Machine Learning (ACML 2020)*, Proceedings of Machine Learning Research, vol. 129, pp. 65–80, 2020.

Ikko Yamane, Junya Honda, Florian Yger, and Masashi Sugiyama. Mediated Uncoupled Learning: Learning Functions Without Direct Input-output Correspondences. In *Proceedings of the 38th International Conference on Machine Learning (ICML 2021)*, Proceedings of Machine Learning Research, vol. 139, pp. 1637–11647, 2021.

Futoshi Futami, Tomoharu Iwata, Naonori Ueda, and **Ikko Yamane**. Skew-symmetrically perturbed gradient flow for convex optimization. In *Proceedings of the 13th Asian Conference on Machine Learning (ACML 2021)*, Proceedings of Machine Learning Research, vol. 157, pp. 721–736, 2021.

Takashi Ishida, **Ikko Yamane**, Nontawat Charoenphakdee, Gang Niu, and Masashi Sugiyama. Is the performance of my deep network too good to be true? A direct approach to estimating the Bayes error in binary classification. In *Proceedings of 11th International Conference on Learning Representations (ICLR 2023)*, 2023.

Ikko Yamane, Yann Chevaleyre, Takashi Ishida, and Florian Yger. Mediated Uncoupled Learning and Validation with Bregman Divergences: Loss Family with Maximal Generality. In *Proceedings of the 26th International Conference on Artificial Intelligence and Statistics (AISTATS 2023)*, Proceedings of Machine Learning Research, vol. 206, pp. 4768–4801, 2023.

JOURNAL ARTICLES

Akinori Kawachi and **Ikko Yamane**. A Fourier-Analytic Approach to List-Decoding for Sparse Random Linear Codes. *IEICE Transactions on Information and Systems*, vol. E98-D, no. 3, pp. 532–540, 2015.

Ikko Yamane, Hiroaki Sasaki, and Masashi Sugiyama. Regularized Multi-Task Learning for Multi-Dimensional Log-Density Gradient Estimation. *Neural Computation*, vol. 28, no. 6, pp. 1388–1410, 2016.

Tianyi Zhang, **Ikko Yamane**, Nan Lu, and Masashi Sugiyama. A One-Step Approach to Covariate Shift Adaptation. *SN Computer Science*. vol. 2, no. 319, 12 pages, 2021.

Presentation

Asian Conference on Machine Learning 2016 (ACML 2016)

Poster and Oral Presentations on mediated uncoupled learning

Hamilton, New Zealand

Apr. 2022

Invited Seminar Presentation at S²A Team, Télécom Paris Oral presentation on learning from multiple weak datasets	Paris, France Mar. 2022
Forum on Information Technology 2019 (FIT 2019) Talk on Uplift Modeling from Separate Labels	Okayama, Japan Sep. 2019
TOSHIBA Research and Development Center Visit Talk on Uplift Modeling from Separate Labels	Tokyo, Japan Jan. 2019
32nd Conference on Neural Information Processing Systems (NeurIPS 2018) Poster Presentation on Uplift Modeling from Separate Labels	Montréal, Canada Dec. 2018
International Research Center for Neurointelligence (IRCN) Site Visit Poster Presentation on Uplift Modeling from Separate Labels	Tokyo, Japan Jan. 2018
Second International Workshop on Symbolic-Neural Learning 2018 (SNL 2018) Poster Presentation on Uplift Modeling from Separate Labels	Nagoya, Japan Jul. 2018
Asian Conference on Machine Learning 2016 (ACML 2016) Poster and Oral Presentations on Multitask Principal Component Analysis	Hamilton, New Zealand Nov. 2016

Skills

Languages	Japanese (Native), English (Advanced), French (Beginner), Chinese (Beginner)
Programming	Python (Advanced), Matlab (Advanced), Java (Advanced), C (Advanced), C++ (Intermediate), Haskell (Intermediate), \LaTeX (Intermediate)
Frameworks/Libraries	Pytorch, MLflow, Chainer, Scikit-learn, Numpy, Scipy, Sympy, Manopt
Operating Systems Administration	MacOS, Ubuntu, NixOS, Windows
Code Editors/IDE	Emacs, VIM, Visual Studio Code, PyCharm, Eclipse
Other Software	Git, LDAP, NIS, NFS, Bash, Fish, Tmux, Ansible, Sed, Awk, XMonad