Yu-Guan Hsieh

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https://www.cyber-meow.com

Research interest

• Online learning • Distributed optimization • Minimax optimization • Game theory

Education

2019 – present **Université Grenoble Alpes, Grenoble, France**
Ph.D. in optimization and machine learning
Thesis: Minimax optimization and online learning
Advisors: Franck Iutzeler, Jérôme Malick, and Panayotis Mertikopoulos

2018 – 2019 **École normale supérieure Paris-Saclay, Cachan, France**
MSc degree in Mathematics, Computer Vision, Machine Learning (MVA)
Grade: 18.05/20 (Success with Highest Honors)

2016 – 2020 **École normale supérieure, Paris, France**
BSc degree and MSc in computer science. Grades: 17.22/20 and 17.6/20.
ENS graduate degree as *normalien*

2014 – 2016 **Lycée du Parc, Lyon, France**
Intensive preparatory program leading to competitive entrance exams to French Grandes Écoles

Industrial and Academic Internships

2021 Oct. – 22 Jan. **Amazon Development Center, Tübingen, Germany**
Applied science internship—Multi-armed bandits and causality
Supervised by Shiva Kasiviswanathan
Focused on the interplay between multi-arm bandits and causality, with the general goal of understanding how causal knowledge can help improve bandit algorithms. The study of a specific stochastic bandit model leaded to a preprint that is now under review for NeurIPS.

2019 Apr. – Sept. **Jean Kuntzmann Laboratory (UMR 5224 CNRS), Grenoble, France**
Research internship—Extragradient and its variants
Supervised by Franck Iutzeler, Jérôme Malick, and Panayotis Mertikopoulos
Derived convergence guarantees of several extragradient-type methods for solving variational inequalities, with a focus on stochastic setting. (Published at NeurIPS 2019)

2018 Mar. – Aug. **RIKEN Center for Advanced Intelligence Project, Tokyo, Japan.**
Research internship—Weakly supervised learning
Supervised by Gang Niu and Masashi Sugiyama
Worked on semi-supervised learning, learning with noisy labels and positive-unlabeled learning. Main mathematical tools included concentration bounds and Rademacher complexity. (Published at ICML 2019)

2018 June – Aug. **Behaviors.ai, Lyon, France**
Research internship—Multimodal learning
Supervised by Amélie Cordier and Mathieu Lefort
Studied how to learn a shared latent representation from multimodal data through deep learning methods. Some related topics are transfer learning and developmental robotics.

Publications and Preprints

- Yu-Guan Hsieh, Kimon Antonakopoulos, Volkan Cevher, and Panayotis Mertikopoulos. *No-Regret Learning in Games with Noisy Feedback: Faster Rates and Adaptivity via Learning Rate Separation.* In **Conference on Neural Information Processing Systems**, 2022.
- Yu-Guan Hsieh, Shiva Prasad Kasiviswanathan, and Branislav Kveton. *Upliting Bandits.* In **Conference on Neural Information Processing Systems**, 2022.
- Yu-Guan Hsieh, Yassine Laguel, Franck Iutzeler, and Jérôme Malick. *Push–Pull with Device Sampling.* arXiv preprint arXiv:2206.04113, 2022.
- Yu-Guan Hsieh, Franck Iutzeler, Jérôme Malick, and Panayotis Mertikopoulos. *Multi-agent Online Optimization with Delays: Asynchronicity, Adaptivity, and Optimism.* **Journal of Machine Learning Research**, 2022.
- Yu-Guan Hsieh, Franck Iutzeler, Jérôme Malick, and Panayotis Mertikopoulos. *Optimization in Open Networks via Dual Averaging.* In **IEEE Conference on Decision and Control**, 2021.
- Yu-Guan Hsieh, Kimon Antonakopoulos, and Panayotis Mertikopoulos. *Adaptive Learning in Continuous Games: Optimal Regret Bounds and Convergence to Nash Equilibrium.* In **Conference on Learning Theory**, 2021.
- Yu-Guan Hsieh, Franck Iutzeler, Jérôme Malick, and Panayotis Mertikopoulos. *Explore Aggressively, Update Conservatively: Stochastic Extragradient Methods with Variable Stepsize Scaling.* In **Conference on Neural Information Processing Systems**, 2020.
- Yu-Guan Hsieh, Franck Iutzeler, Jérôme Malick, and Panayotis Mertikopoulos. *On the Convergence of Single-Call Stochastic Extra-Gradient Methods.* In **Conference on Neural Information Processing Systems**, 2019.
- Yu-Guan Hsieh, Gang Niu, and Masashi Sugiyama. *Classification from Positive, Unlabeled and Biased Negative Data.* In **International Conference on Machine Learning**, 2019.

Service

Reviewer at ICML (2020–), NeurIPS (2019–), and ICLR (2021–)

Distinction and Awards

- Outstanding reviewer award at NeurIPS 2019 (top 10%), ICML 2020 (top 33%), ICLR 2021, and NeurIPS 2021 (top 8%)
- Spotlight at NeurIPS 2019
- Silver medal in International Mathematical Olympiad 2013

Teaching

2020 – 2022	Teaching assistant for the master course **Numerical Optimization** at ENSIMAG The course covers basic notions of convexity, optimality conditions, algorithms for continuous optimization, and duality.