Etienne Boursier

Researcher, INRIA Saclay

▬▬ Work Experience

Research

2023–now   **Researcher**, *INRIA*, Saclay, France
Member of the CELESTE team, located in *Institut Mathématique d'Orsay*.

2021–2023   **Postdoc**, *EPFL*, Lausanne, Switzerland
Theory of Machine Learning Lab; working on theory of neural networks and meta-learning.
Supervisor: Nicolas Flammarion.

2018–2021   **PhD student**, *École Normale Supérieure Paris-Saclay*, Cachan, France
PhD title: "Statistical Learning in a strategical environment".
Supervisor: Vianney Perchet.

2018   **Master Thesis**, *École Normale Supérieure Paris-Saclay*, Cachan, France
Multiplayer bandits.

2017   **Research internship**, *UCSD*, San Diego, California, USA
Approximate query answering databases.

Teaching

2018–2021   **Teaching assistant**, *École Normale Supérieure Paris-Saclay*, Cachan, France
Integration and probability Theories.
Introduction to Statistics.
Numerical Analysis of ODE.

Miscellaneous

2016   **R&D Intern**, *Teraki GmbH*, Berlin, Germany
Compression schemes for IoT data.

▬▬ Education

2017–2018   **Master 2 (MVA)**, *École Normale Supérieure Paris-Saclay*, Cachan, France
Research oriented master in Computer Vision and Machine Learning.

2014–2018   **Ingénieur Polytechnicien Program**, *École Polytechnique*, Palaiseau, France
Top ranking engineering French school.
Majoring in Mathematics and Computer Science (Data Science track).

▬▬ Awards

2022   **PGMO PhD award**
Prize awarding 1000€ to two french PhD theses for contributiing to Optimization or Operations Research.

Publications

Journals

[BouPer22a] **Utility/Privacy Trade-off as Regularized Optimal Transport** by E. Boursier and V. Perchet, in *Mathematical Programming*

Accepted in peer reviewed proceedings of conferences

[BPF22] **Gradient flow dynamics of shallow ReLU networks for square loss and orthogonal inputs** by E. Boursier, L. Pillaud-Vivien and N. Flammarion, in *Neural Information Processing Systems*

[BKF22] **Trace norm regularization for multi-task learning with scarce data** by E. Boursier, M. Konobeev and N. Flammarion, in *Conference on Learning Theory*

[BPS22] **Social Learning in Non-Stationary Environments** by E. Boursier, V. Perchet and M. Scarsini, in *Conference on Algorithmic Learning Theory*

[SBP21] **Decentralized Learning in Online Queuing Systems** by F. Sentenac*, E. Boursier* and V. Perchet, in *Neural Information Processing Systems* (spotlight)

[BPS21] **Making the most of your day: online learning for optimal allocation of time** by E. Boursier, V. Perchet and M. Scarsini, in *Neural Information Processing Systems*

[PBPV20] **Statistical Efficiency of Thompson Sampling for Combinatorial Semi-Bandits** by P. Perrault, E. Boursier, V. Perchet and M. Valko, in *Neural Information Processing Systems*

[BouPer20a] **Selfish Robustness and Equilibria in Multi-Player Bandits** by E. Boursier and V. Perchet, in *Conference on Learning Theory*

[BouPer20b] **Utility/Privacy Trade-off through the lens of Optimal Transport** by E. Boursier and V. Perchet, in *International Conference on Artificial Intelligence and Statistics*

[BKMP20] **A Practical Algorithm for Multiplayer Bandits when Arm Means Vary Among Players** by E.Boursier, E. Kaufmann, A. Mehrabian and V. Perchet, in *International Conference on Artificial Intelligence and Statistics*

[BouPer19] **SIC - MMAB: Synchronisation Involves Communication in Multiplayer Multi-Armed Bandits** by E. Boursier and V. Perchet, in *Neural Information Processing Systems (spotlight)*

Preprints

[BouFla23] **Penalising the biases in norm regularisation enforces sparsity** by E. Boursier and N. Flammarion, March 2023.

[YBF23] **Model agnostic methods meta-learn despite misspecifications** by O. Yuksel, E. Boursier and N. Flammarion, March 2023.

[BouPer22] **A Survey on Multiplayer Bandits** by E. Boursier and V. Perchet, November 2022.

Communications

International Conferences and Seminars

2022 **Trace norm regularization for multi-task learning with scarce data**, *Conference on Learning Theory*, London, United Kingdom

2022 **Social Learning in Non-Stationary Environments**, *Conference on Algorithmic Learning Theory*, Paris, France

2021 **Decentralized Learning in Online Queuing Systems**, *Neural Information Processing Systems* (online)

2021 **Making the most of your day: online learning for optimal allocation of time**, *Neural Information Processing Systems* (online)

2020 **Selfish Robustness and Equilibria in Multi-Player Bandits**, *Conference on Learning Theory (online)*

2020 **Utility/Privacy Trade-off through the lens of Optimal Transport**, *International Conference on Artificial Intelligence and Statistics (online)*

2020 **A Practical Algorithm for Multiplayer Bandits when Arm Means Vary Among Players**, *International Conference on Artificial Intelligence and Statistics (online)*

2019 **SIC-MMAB: Synchronisation involves communication in Multiplayer bandits**, *Neural Information Processing Systems* (spotlight), Vancouver, Canada

Local Conferences and Seminars

2022 **Gradient flow dynamics of shallow ReLU networks for square loss and orthogonal inputs**, *Learning and Optimization in Luminy*, Luminy, France

2022 **Trace norm regularization for multi-task learning with scarce data**, *MIA seminar*, Agro ParisTech, Palaiseau, France

2022 **Gradient flow dynamics of shallow ReLU networks for square loss and orthogonal inputs**, *Summer Research Institute*, EPFL, Lausanne, Switzerland

2021 **Decentralized Learning in Online Queuing Systems**, *Game Theory Seminar*, IHP, Paris, France

2021 **Competing bandits in Matching Markets**, *Matching Reading Group*, online

2020 **NeurIPS debriefing**, *MLMDA seminar*, Cachan, France

2019 **SIC-MMAB: Synchronisation involves communication in Multiplayer bandits**, *MLMDA seminar*, Cachan, France

2019 **Private Learning through the Lens of Optimal Transport**, *StatMathAppli*, Fréjus, France

Reviewer

Journals | Journal of Machine Learning Research; Journal of Computational and Applied Mathematics; Operations Research Letters; Management Science

Conferences | Neural Information Processing Systems; International Conference on Machine Learning; Conference on Learning Theory; International Conference on Learning Representations; IEEE International Symposium on Information Theory; Conference on Economics and Computation; Conference on Uncertainty in Artificial Intelligence