Marc Jourdan

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Education

2021 – 2024 **Ph.D. in Computer Science**, Inria Scool (CRIStAL), **Université de Lille**, Lille, France.
Multi-Armed Bandits, Pure Exploration, Best Arm Identification, Differential Privacy.
Thesis working title: *Adaptive algorithms for decision making with limited samples.*
Supervisors: Dr. Émilie Kaufmann and Dr. Rémy Degenne.

2018 – 2020 **M.Sc. Data Science**, *with distinction (GPA 5.8/6)*, **ETH Zürich**, Zürich, Switzerland.
Statistics, Machine Learning. Master's Thesis in the Learning & Adaptive Systems group.
Thesis title: *Pure Exploration for Combinatorial Bandits with Semi-Bandit Feedback.*
Supervisors: Mojmír Mutný, Dr. Johannes Kirschner and Prof. Dr. Andreas Krause.

2015 – 2019 **Ingénieur (M.Sc.)**, *with distinction (top* 10%*)*, **École Polytechnique**, Palaiseau, France.
Applied Mathematics, Computer Science.

2013 – 2015 **Classes préparatoires**, **Lycée Louis-Le-Grand**, Paris, France.
Mathematics, Physics, Computer Science.

Professional Activities

Visiting Stays and Internships

2024 (3 mo.) **Visiting Researcher**, LAILA, **Università degli Studi di Milano**, Milan, Italy.
Will study multitask learning and delayed feedback with Prof. Dr. Nicolò Cesa-Bianchi.

2021 (5 mo.) **Research Intern**, Scool (formerly SequeL), **Inria**, Lille, France.
Studied bandit identification with continuous answers with Dr. Rémy Degenne.

2019 (6 mo.) **Data Scientist** (Part time), **AMAG Leasing**, Zürich, Switzerland.
Created a recommender system for customers, developed churn prediction models.

2018 (5 mo.) **Research Intern**, AI @ Nation Scale, **IBM Research**, Singapore.
Characterized entities in the Bitcoin blockchain, probabilistically modeled its evolution.

2017 (3 mo.) **Research Intern**, **STMicroelectronics**, Crolles, France.
Quantized convolutional neural network for electronic chip.

Teaching and Supervision

2022 **Teaching Assistant**, *Computational Statistics* (M.Sc.), **Université de Lille**, Lille, France.

2020 **Teaching Assistant**, *Machine Perception* (M.Sc.), **ETH Zürich**, Zürich, Switzerland.

Publications

International Conferences

[1] M. **Jourdan**, R. Degenne, and E. Kaufmann, "An ε-best-arm identification algorithm for fixed-confidence and beyond," *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.

[2] A. Azize, M. **Jourdan**, A. Al Marjani, and D. Basu, "On the complexity of differentially private best-arm identification with fixed confidence," *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.

[3] M. **Jourdan** and R. Degenne, "Non-asymptotic analysis of a ucb-based top two algorithm," *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.

[4] M. **Jourdan**, R. Degenne, and E. Kaufmann, "Dealing with unknown variances in best-arm identification," *Algorithmic Learning Theory (ALT)*, 2023.

[5] M. **Jourdan**, R. Degenne, D. Baudry, R. De Heide, and E. Kaufmann, "Top two algorithms revisited," *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.

[6] M. **Jourdan** and R. Degenne, "Choosing answers in ε-best-answer identification for linear bandits," *International Conference on Machine Learning (ICML)*, 2022.

[7] M. **Jourdan**, K. Martinkus, D. Roschewitz, and M. Strohmeier, "I know where you are going: Predicting flight destinations of corporate and state aircraft," *Engineering Proceedings*, 2021.

[8] M. **Jourdan**, M. Mutný, J. Kirschner, and A. Krause, "Efficient pure exploration for combinatorial bandits with semi-bandit feedback," *Algorithmic Learning Theory (ALT)*, 2021.

[9] M. **Jourdan**, S. Blandin, L. Wynter, and P. Deshpande, "A probabilistic model of the bitcoin blockchain," *Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)*, 2019.

[10] M. **Jourdan**, S. Blandin, L. Wynter, and P. Deshpande, "Characterizing entities in the bitcoin blockchain," *International Conference on Data Mining Workshops (ICDMW)*, 2018.

Preprints and Working Drafts

[1] A. Azize, M. **Jourdan**, A. Al Marjani, and D. Basu, "Differentially private best-arm identification," 2024.

[2] M. **Jourdan** and C. Réda, "An anytime algorithm for good arm identification," 2023.

Other Research Activities

Selected Invited Talks

2023 **Learning & Adaptive Systems** (LAS) seminar, ETH Zürich, Switzerland.
Algorithmic Learning Theory (ALT), Singapore.
2022 **StatMathAppli**, CIRM, Fréjus, France.
2021 **Algorithmic Learning Theory** (ALT), Paris, France.
2020 **Learning & Adaptive Systems** (LAS) seminar, ETH Zürich, Switzerland.

Posters

2023 **Advances in Neural Information Processing Systems** (NeurIPS), New Orleans, US.
Workshop on Bandits and Statistical Tests, Potsdam, Germany.
European Workshop on Reinforcement Learning (EWRL), Brussels, Belgium.
Reinforcement Learning Summer School (RLSS), Barcelona, Spain.
2022 **Advances in Neural Information Processing Systems** (NeurIPS), New Orleans, US.
StatMathAppli, CIRM, Fréjus, France.
International Conference on Machine Learning (ICML), Baltimore, US.
Ecole de Printemps d'Informatique Théorique (EPIT), CIRM, Marseilles, France.

Reviewing

AISTATS (2024, 2023), EWRL (2023), ALT (2021), IEEE Selected Areas in Information Theory.

Grants and awards

International mobility grant, Program "France 2030" (SFRI project GRAEL), 2250 €.

Skills

Languages French (native), English (fluent), German (B2).
Coding Julia, Python, R, LaTeX, Java, C++, Bash.