

# Marc Jourdan



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## Education

- 2021 – 2024 **Ph.D. in Computer Science**, Inria Scool (CRISAL), **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: Dr. 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.
- 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  $\varepsilon$ -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  $\varepsilon$ -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

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### Selected Invited Talks

- 2024 **Foundations of Learning and AI Research (FLAIR)** seminar, EPFL, Switzerland.  
**Data Science** group seminar, University of Neuchâtel, Switzerland.
- 2023 **Learning & Adaptive Systems (LAS)** group seminar, ETH Zürich, Switzerland.  
**Algorithmic Learning Theory (ALT)** conference, Singapore.
- 2022 **StatMathAppli** conference, Fréjus, France.
- 2021 **Algorithmic Learning Theory (ALT)** conference, Paris, France.
- 2020 **Learning & Adaptive Systems (LAS)** group seminar, ETH Zürich, Switzerland.

### Selected 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.  
**International Conference on Machine Learning (ICML)**, Baltimore, US.  
**Ecole de Printemps d’Informatique Théorique (EPIT)**, CIRM, Marseilles, France.

### Reviewing

ICML (2024), AISTATS (2024, 2023), EWRL (2023), ALT (2021), IEEE JSAIT.

### Grants and awards

**International mobility grant**, Program “France 2030” (SFRI project GRAEL), 2250 €.

## Skills

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