

# 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 title: *Solving Pure Exploration Problems with the Top Two Approach*.  
Supervisors: Dr. Émilie Kaufmann and Dr. Rémy Degenne.  
Thesis manuscript: <https://theses.hal.science/tel-04804590>.
- 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. Mojmir Mutny, 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.

## Academic and industry research experience

### Academic positions

- 2024 – Present     **Postdoctoral researcher**, TML Laboratory, **EPFL**, Lausanne, Switzerland.  
Study learning theory for large language models, focused on preference-based fine-tuning.  
Advisor: Dr. Nicolas Flammarion.
- 2021 – 2024     **Graduate researcher**, Inria Scool (CRIStAL), **Université de Lille**, Lille, France.  
Studied pure exploration problems with the Top Two approach.  
Supervisors: Dr. Émilie Kaufmann and Dr. Rémy Degenne.

### Visiting stays and internships

- 2024 (3 mo.)     **Visiting researcher**, LAILA, **Università degli Studi di Milano**, Milan, Italy.  
Studied adversarial linear contextual bandits.  
Supervisor: Prof. Dr. Nicolò Cesa-Bianchi.
- 2021 (5 mo.)     **Research intern**, Scool (formerly SequeL), **Inria**, Lille, France.  
Studied bandit identification with continuous answers.  
Supervisor: 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.  
Supervisors: Dr. Sébastien Blandin, Dr. Laura Wynter and Dr. Pralhad Deshpande.
- 2017 (3 mo.)     **Research intern**, **ST Microelectronics**, Crolles, France.  
Quantized convolutional neural network for electronic chip.  
Supervisor: Pascal Urard.

### Teaching positions

- 2022     **Teaching assistant**, *Computational Statistics* (M.Sc.), **Université de Lille**, Lille, France.
- 2020     **Teaching assistant**, *Machine Perception* (M.Sc.), **ETH Zürich**, Zürich, Switzerland.

## Awards and grants

### Awards

- 2025      **Runner-up PhD Award** of SSFAM (Francophone Learned Society for Machine Learning).  
**Runner-up PhD Award** of AFIA (French Association for Artificial Intelligence).

### Grants

- 2024      **International mobility grant**, Program “France 2030” (SFRI project GRAEL), 2250 €.  
2021 – 2024      Recipient of **AI\_PhD@Lille Fellowship**, THIA ANR program.

## Publication list

### International journals

- [1] A. Azize\*, M. Jourdan\*, A. Al Marjani, and D. Basu, “Differentially private best-arm identification,” *Journal of Machine Learning Research (JMLR)*, 2026, Accepted for publication after minor revision.
- [2] M. Jourdan, A. Delahaye-Duriez, and C. Réda, “An anytime algorithm for good arm identification,” *Journal of Machine Learning Research (JMLR)*, 2026, Accepted for publication.

### International conferences with proceedings

- [1] M. Jourdan\* and A. Azize\*, “Optimal best arm identification under differential privacy,” *Advances in Neural Information Processing Systems (NeurIPS)*, 2025.
- [2] M. Jourdan, G. Yüce, and N. Flammarion, “Learning parametric distributions from samples and preferences,” *International Conference on Machine Learning (ICML)*, 2025, **Spotlight** (2.6%).
- [3] C. Kone, M. Jourdan, and E. Kaufmann, “Pareto set identification with posterior sampling,” *International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2025.
- [4] R. Poiani\*, M. Jourdan\*, R. Degenne, and E. Kaufmann, “Best-arm identification in unimodal bandits,” *International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2025.
- [5] 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.
- [6] 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.
- [7] M. Jourdan and R. Degenne, “Non-asymptotic analysis of a ucb-based top two algorithm,” *Advances in Neural Information Processing Systems (NeurIPS)*, 2023, **Spotlight** (3.06%).
- [8] M. Jourdan, R. Degenne, and E. Kaufmann, “Dealing with unknown variances in best-arm identification,” *Algorithmic Learning Theory (ALT)*, 2023.
- [9] M. Jourdan, R. Degenne, D. Baudry, R. De Heide, and E. Kaufmann, “Top two algorithms revisited,” *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- [10] M. Jourdan and R. Degenne, “Choosing answers in  $\varepsilon$ -best-answer identification for linear bandits,” *International Conference on Machine Learning (ICML)*, 2022.
- [11] M. Jourdan, M. Mutný, J. Kirschner, and A. Krause, “Efficient pure exploration for combinatorial bandits with semi-bandit feedback,” *Algorithmic Learning Theory (ALT)*, 2021.

### International workshops with proceedings

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

- [2] M. **Jourdan**, S. Blandin, L. Wynter, and P. Deshpande, “A probabilistic model of the bitcoin blockchain,” in *Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)*, 2019.
- [3] M. **Jourdan**, S. Blandin, L. Wynter, and P. Deshpande, “Characterizing entities in the bitcoin blockchain,” in *International Conference on Data Mining Workshops (ICDMW)*, 2018.

## Other research activities

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### Selected Invited Talks

- 2025      **CREST** seminar, ENSAE, Palaiseau, France.  
**Ghost** seminar, Inria, Grenoble, France.  
**Malt** seminar, Inria, Rennes, France.  
**ILOCOS** seminar, CentralSupélec, Palaiseau, France.  
**ML-MTP** seminar, Inria, Montpellier, France.  
**Conférence sur l'Apprentissage automatique (Cap)**, Dijon, France.  
2024      **Conférence sur l'Apprentissage automatique (Cap)**, Lille, France.  
**LAILA** seminar, University of Milan, Italy.  
**Foundations of Learning and AI Research (FLAIR)** seminar, EPFL, Switzerland.  
**Data Science** seminar, University of Neuchâtel, Switzerland.  
2023      **Learning & Adaptive Systems (LAS)** seminar, ETH Zürich, Switzerland.  
**Algorithmic Learning Theory (ALT)** conference, Singapore.  
2022      **StatMathAppli** conference, Fréjus, France.  
**Scool** seminar, Inria, Lille, France.  
2021      **Scool** seminar, Inria, Lille, France.  
**Algorithmic Learning Theory (ALT)** conference, Paris, France.  
2020      **Learning & Adaptive Systems (LAS)** seminar, ETH Zürich, Switzerland.

### Reviewing

NeurIPS (2025), ICML (2025, 2024), AISTATS (2026, 2025, 2024, 2023), EWRL (2025, 2024, 2023), ALT (2026, 2021), IEEE JSAIT.