

# Achraf Azize

Researcher in Machine Learning & Privacy

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🌐 [achraf-azize.github.io](https://achraf-azize.github.io)

## Education

- 2021–2024 **Ph.D in Machine Learning**, *Inria Scool, Université de Lille*, France  
Title: *Privacy-Utility Trade-offs in Sequential Decision-Making under Uncertainty*  
Supervisors: Debabrota Basu, Philippe Preux. Link: [HAL](#)
- 2020–2021 **M.Sc. in Machine Learning**, *MVA, ENS Paris Saclay*, France  
Machine Learning, Applied Maths and Statistics
- 2017–2021 **B.Sc. in Applied Maths**, *Ecole Polytechnique*, France  
Applied Maths, Computer Science and Physics

## Research and Work Experience

### Academic Positions

- 2025–Present **Postdoctoral Researcher**, *Inria FairPlay, CREST, ENSAE*, France  
Privacy and competitive analysis in online learning. Advisor: Vianney Perchet
- 2021–2024 **Graduate Researcher**, *Inria Scool, Université de Lille*, France  
Differential Privacy, Multi-armed bandits, Privacy auditing, Membership Inference

### Visiting Stays and Internships

- 2024 **Visiting Researcher**, *Graduate School of Informatics*, Japan  
Collaboration with Junya Honda on bandits and Differential Privacy
- 2021 **Research Intern**, *InstaDeep*, France  
Multi-Object Manipulation using Reinforcement Learning and Graph Neural Networks.  
Focused on the practical deployment of complex agents, bridging ML theory and engineering
- 2020 **Research Intern**, *DataLab Groupe Crédit Agricole*, France  
Worked on AutoML pipelines and interpretability for real-world tabular data

### Teaching

- 2021–Present **Teaching Assistant**, *MVA, ENS Paris Saclay*, France  
Graphs in Machine Learning, with Daniele Calandriello. Course link
- 2022–2023 **Lecturer**, *Ecole Centrale de Lille*, France  
Python Practicals for the SDIA Masters. Course link

## Publications

- [1] **A. Azize** and D. Basu. When privacy meets partial information: A refined analysis of differentially private bandits. *NeurIPS*, 2022.
- [2] **A. Azize** and D. Basu. Rényi differentially private bandits. *PPAI@AAAI*, 2023.

- [3] **A. Azize**, M.Jourdan, A. Al Marjani, and D. Basu. On the complexity of differentially private best-arm identification with fixed confidence. *NeurIPS*, 2023.
- [4] **A. Azize** and D. Basu. Concentrated differential privacy for bandits. *IEEE SaTML*, 2024.
- [5] **A. Azize** and D. Basu. Open problem: What is the complexity of joint differential privacy in linear contextual bandits? *COLT*, 2024.
- [6] **A. Azize** and D. Basu. Some targets are harder to identify than others: Quantifying the target-dependent membership leakage. *AISTATS*, 2025 (**Oral Presentation**).

## Research Activities

### Invited Talks and Posters

- 2025 **FairPlay Seminar**, *Criteo*, Paris
- 2024 **SaTML Talk and Poster Session**, *University of Toronto*, Canada  
**COLT**, *University of Alberta*, Canada  
**Shimo Lab Seminar**, *University of Kyoto*, Japan  
**IBIS Poster Session**, *Tokyo*, Japan
- 2023 **Scool Seminar**, *Inria Lille*, France  
**Comete Ethical AI Workshop**, *LIX, Ecole Polytechnique*, France  
**Neurips Poster Session**, *New Orleans*, US  
**RLSS Poster Session**, *Barcelona*, Spain  
**EWRL Poster Session**, *Brussels*, Belgium
- 2022 **Scool Seminar**, *Inria Lille*, France  
**Neurips Poster Session**, *New Orleans*, US  
**EWRL Poster Session**, *Politecnico di Milano*, Italy  
**NeurIPS @ Paris Talk and Poster Session**, *Paris*, France

### Reviewing

NeurIPS (2023-2024-2025), ICML (2022, 2023, 2024), COLT (2025), AISTATS (2025), EWRL (2022, 2023), AAAI (2023), TMLR

## Honors and Awards

- Recipient of AI\_PhD@Lille Fellowship, 2021 - 2024, THIA ANR program.
- French Government Excellence Scholarship, 2017-2021 (Top 7 in Morocco).
- Member of the Moroccan Mathematics Olympiad Team (Top 12 in Morocco).
- Ranked 2nd out of 1779 candidates in the Concours National Commun 2017 (CNC)

## Skills

- Languages Arabic (native), French (fluent), English (fluent)
- Coding Python, SQL, Go, Java, C/C++
- Tools Git, Google Colab, Google Cloud Platform, PyTorch
- Interests Football, Tennis, Pétanque, Swimming, Music