

Achraf Azize

Researcher in Machine Learning & Privacy

✉ achraf.azize@ensae.fr
🌐 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. and M.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

- 2025 **Visiting Researcher**, *Boston University, USA*
Collaboration with Adam Smith on interactive Differential Privacy for contextual bandits
- 2024 **Visiting Researcher**, *Graduate School of Informatics, Japan*
Collaboration with Junya Honda on Differential Privacy for adversarial bandits
- 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**).
- [7] **A. Azize**, Y. Wu, J. Honda, F. Orabona, S. Ito, and D. Basu. Optimal regret of bandits under differential privacy. *NeurIPS*, 2025.
- [8] M. Jourdan and **A. Azize**. Optimal best arm identification under differential privacy. *NeurIPS*, 2025.

Research Activities

Invited Talks and Posters

- 2025 **FairPlay Team Retreat**, *Fréjus*, France
Boston Privacy Seminar, *Boston University*, USA
METIS Spring School Invited Talk, *UM6P in Rabat*, Morocco
AISTATS Oral and Poster Presentations, *Splash Beach Resort in Mai Khao*, Thailand
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), EWRL (2022, 2023), AAAI (2023), AISTATS (2025-**Best Reviewer Award**, 2026), TMLR, IEEE T-IFS

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