Achraf Azize

Researcher in Machine Learning & Privacy

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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), EWRL (2022, 2023), AAAI (2023), AISTATS (2025, **Best Reviewer Award**), 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