# Youssef Miled

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MEng Operations Research student with AI and software development experience. Seeking new grad roles in ML engineering or research, applied science, data science or software development.

## Education

**UC Berkeley**, *MEng in IEOR*, California, USA — Aug 2025 – May 2026

- **Relevant Coursework:** Machine Learning and Data analytics, Agentic AI, Mathematical Programming, Applied Stochastic Processes.
- Teaching assistant for the course "Computer Simulations with Jupyter Notebooks" (Fall 2025).

**Centrale Lyon**, *Bsc/Msc in General Engineering*, Lyon, France — 2021 – 2025

- Applied Mathematics, Statistics and Causal Inference, Data Analysis and Pattern Recognition, Supervised and Unsupervised Learning.
- Teaching assistant in Signal Processing for final-year undergraduate students (Fall 2024).

## Professional Experience

**ML**, CISPA Helmholtz Center for Information Security, Germany — May 2025 – July 2025
*Supervisors: Franziska Boenisch, Adam Dziedzic*

- Designed and deployed end-to-end pipelines in PyTorch to improve privacy-utility trade-offs in Large Language Models, integrating unlearning methods with statistical validation.
- Conducted large-scale experiments integrating in-context unlearning, parameter-efficient fine-tuning, and membership inference attacks, leveraging Docker and SLURM to manage scalable training and evaluation.
- Collaborating with Prof. Boenisch and Prof. Dziedzic, as part of CISPA (ranked first worldwide in Computer Security according to CSRankings), and contributing to a research paper submission in a top conference.

## Projects

**Small Language Models for Edge AI in Space**, *Satlyt*, San Francisco, USA — Sep 2025 – May 2026
*Capstone project. Supervisor: Rama Afullo*

- Ongoing project with UC Berkeley and Satlyt, focusing on prototyping a ground-based system simulating Small Language Models deployment on satellites.
- Implementing optimized, lightweight deep learning models for real-time data processing, leveraging parallelization and hardware acceleration (AWS IoT Greengrass, Intel OpenVINO) to maximize efficiency.
- Designing onboard inference pipelines to enable low-latency decision-making at the edge, reducing reliance on ground communications and ensuring robust performance.

**Data analysis for table tennis matches**, *LIRIS*, Lyon, France — Sep 2024 – April 2025
*Research project. Supervisor: Romain Vuillemot*

- Engineered and enriched a dataset of 8,679 shots from professional matches with SQL; reconstructed 3D ball trajectories via physics simulations and validated against ground truth using RMSE metrics.
- Applied clustering and pattern analysis on simulated trajectory data to classify player strategies and quantify "bounce uncertainty", deriving novel tactical insights.

**Android app for classroom learning assistance**, *Centrale Lyon*, France — Sep 2023 – June 2024
*Capstone project*

- Project leader of a team of 6 students developing a classroom learning assistance application using Android Studio. Utilized text processing algorithms to provide feedback on student note-taking.
- Developed two interfaces where the teacher gets insights into the students' mistakes or lack of focus, and the students receive evaluations of their own work.

## Skills

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| **Programming** | Python, C/C++, SQL, OCaml, Matlab, Java, JavaScript, HTML, CSS |
| **ML** | PyTorch, scikit-learn, NumPy, Pandas, OpenCV, OpenVINO |
| **Tools / Platforms** | Docker, Git, SLURM, LaTeX |
| **Languages** | English: *Fluent*, French: *Fluent*, Arabic: *Native* |