

# Youssef MILED

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## EDUCATION

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**UC Berkeley, MEng in IEOR**

August 2025 – May 2026

- Concentration in FinTech.

**Centrale Lyon, BSc/MSc in General Engineering**

2023 – April 2025

- *Mathematics Coursework:* Numerical Analysis, Applied Analysis, Probability, Statistics, Signal Processing, Mathematical Biology.
- *Computer Science Coursework:*

Data Analysis and Pattern Recognition, Algorithms and Data Structures, Programming of Graphic Interface in C++, Object-Oriented Programming, Web Programming.

**Lycée Champollion, Grenoble, MP2I/MPI preparatory classes**

2021 – 2023

- *Mathematics Coursework :* Combinatorics, Probability Theory, Discrete Random Variables, Differential Calculus and Optimization, Algebraic Structures, Number Theory, Linear Algebra, Reduction of Endomorphisms, Topology, Euclidian and Hermitian Spaces.
- *Computer Science Coursework:* Analysis of Algorithms, Logic, Formal Languages and Automata Theory, Concurrency, C and OCaml Programming, Advanced Algorithms and Data Structures, Graph Theory, Game Theory, Algorithmics for Artificial Intelligence, Decidability and Complexity Classes, Databases (SQL).

## TEACHING

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**Oral Examiner, Minsitry of higher education and scientific research, France**

September 2024 - Present

- Oral examiner in mathematics for first-year preparatory class undergraduates. Conducting weekly sessions to prepare students for the competitive entrance exams to France's top-tier engineering schools (Grandes Écoles).
- *Topics covered:* Combinatorics, Probability, Real Analysis, Complex numbers, Differential equations, Calculus, Number Theory, Algebraic Structures, Linear Algebra, Symmetric Groups and Determinants.

**Teaching Assistant, Centrale Lyon, Lyon, France**

September 2024 - January 2025

- Organizing weekly sessions for third-year undergraduate students for in-depth discussions in Signal Processing.
- *Topics covered:* Matlab, Mathematics for Signal Processing, Cross-Correlation, Filtering and Sampling, Random Signals, Analog to Digital Conversion.

## PROFESSIONAL EXPERIENCE

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**ML research intern, CISPA HELMHOLTZ CENTER FOR INFORMATION SECURITY**

May 2025 – July 2025

Saarbrücken, Germany

*Supervisor: Franziska BOENISCH*

- Machine learning research intern in the SprintML Group (Secure, Private, Robust, INterpretable, and Trustworthy Machine Learning).
- Working on unlearning for LLMs.

## RESEARCH AND PROJECTS

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**Data analysis for table tennis matches, LIRIS, Lyon, France**

September 2024 – April 2025

*Research project. Supervisor: Romain VUILLEMOT*

- Conducted a study on table tennis ball trajectories, utilizing physics-based modeling and player data to analyze bounce uncertainty zones and strike timing, contributing to player classification and strategy development.
- Processed and enriched a dataset of 8,679 shots from professional matches, reconstructing 3D trajectories using physics-based simulations and validating results with RMSE against ground-truth data.

**Android app for classroom learning assistance, Centrale Lyon, France**

September 2023 – June 2024

*Study 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.

**Type system extension for noninterference**, *Lycée Champollion*, Grenoble, France

2021 – 2023

*Research project*

- Extended and implemented a type system for a simple programming language defined by a grammar in OCaml.
- Proved the noninterference property (for secure information flow) in the extended type system.
- Implemented an n-ary tree representation for formal proofs and a type checker to validate proof tree correctness in this programming language.

## TECHNICAL SKILLS

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<b>Coding</b>	C/C++, OCaml, Python, Matlab, Java, JavaScript, SQL, HTML, CSS
<b>Tools</b>	Android Studio, Jupyter Notebook, Visual Studio Code, Git, Ubuntu, LaTeX
<b>Languages</b>	English: <i>Fluent</i> , French: <i>Fluent</i> , Arabic: <i>Native</i> , Spanish: <i>Professional working proficiency</i> Mandarin: <i>Basic proficiency</i>