Youssef Miled

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Education

Centrale Lyon, *BSc/MSc in General Engineering* 2023 – Present

- Grade: 3.83/4.0
- *Computer Science Coursework:* Data Analysis and Pattern Recognition, Programming of Graphic Interface in C++, Algorithms and Data Structures, Object-Oriented Programming, Web Programming.
- *Mathematics Coursework:* Numerical Analysis, Applied Analysis, Probability, Statistics, Mathematical Biology, Signal Processing.

Lycée Champollion, Grenoble, *MP2I/MPI preparatory classes* 2021 – 2023

- Grade: A (1st/46)
- *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).
- *Mathematics Coursework :* Combinatorics, Algebraic Structures, Number Theory, Linear Algebra, Reduction of Endomorphisms, Topology, Euclidian and Hermitian Spaces, Probability Theory, Discrete Random Variables, Differential Calculus and Optimization.

Research and projects

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

- Analysis of simulated trajectories and statistical analysis from a database of over 1000 matches.
- Classification of players based on stroke trajectory percentages and strategy. Working on publishing an article.

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
Semi-independant 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.

Teaching

Oral Examiner, *Minsitry of higher education and scientific research*, France September 2024 - Present

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

Teaching Assistant, *Centrale Lyon*, Lyon, France September 2024 - January 2025

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

Community Leadership

IT Manager, *Centrale Lyon Conseil - Centrale Lyon* November 2023 - January 2025

- Managed data systems and website administration as a member of Centrale Lyon Conseil, a Junior Enterprise that operates similarly to a consulting firm in IT, engineering, and market studies.
- Supervised IT missions, driving the achievement of a revenue milestone of 50,000 euros.
- Migrated to *ERPNext* for customer relationship management and intern management.

Technical Skills

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