Boudrouss Réda | CV

MSc in Software Science and Technology at Sorbonne University

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Languages: French (Native), English (Professional), Arabic (Conversational)

Profile

Currently completing a Master's in Software Science and Technology at Sorbonne University, I work on **static analysis**, with a particular interest in **abstract interpretation**, **WebAssembly**, **OCaml**, **Rust** and dynamic languages like **JavaScript**. I am seeking a PhD position or an engineering role in **static analysis and formal methods**.

Education

Master's in Software Science and Technology - Sorbonne University 2024 – 2026

· Training in **static analysis**, static typing and **abstract interpretation**, including the inference of numerical properties for the formal verification of programs.

· Design and implementation of **programming languages** and their execution mechanisms, development of high-level features, comparison between **interpreters** and **compilers**.

· Work on **concurrency**, **distributed programming** and Web architectures, with a focus on **software reliability**, performance and tooling around modern runtime environments.

Bachelor's in Computer Science - Sorbonne University 2020 – 2024

· Training in algorithms, computer architecture, operating systems, networks, databases, functional and object-oriented programming.

· Completion of numerous **team projects** to put the coursework into practice, in various languages (C, Java, OCaml, Python, TypeScript...).

Experience

Quality Analyst - Hexaglobe 2025 – 2026

· Design of **verification** and **quality-control** systems tailored to each project, to ensure the reliability and consistency of developments.

· Automation of deployments and testing.

· Integration of **static analysis** and quality-control tools into the CI/CD pipeline.

Technical Lead - Play Sorbonne University Association 2023 – 2026

· Design and deployment of a **virtualized infrastructure**: Docker servers, CI/CD orchestration, network configuration and Google Workspace management (centralized email).

· Creation and optimization of the showcase website (**9,000 unique visitors** in 2025): responsive architecture, **SEO** and analytics tracking.

· Development of a mobile, **local-first** Web App for quest tracking: **secure authentication**, back-end architecture optimized for low-bandwidth clients and a high-performance database for high traffic.

President - Play Sorbonne University Association 2024 – 2025

· Definition and coordination of the **overall strategy**, project supervision, leading the team toward shared goals and representing the association.

· Organization of a team of over **100 volunteers** and contribution to the success of a cultural event that welcomed more than **10,000 visitors**.

Talks

· **Compiling FFI-heavy OCaml to WebAssembly: An Experience Report on MOPSA**. Talk and paper, OCaml Workshop 2026 (FPW 2026), Paris, 24 Aug. 2026.
· **ocaml-emcc: your OCaml and its C, in WebAssembly**. Talk, OUPS (OCaml Users in PariS), 2 Dec. 2026 *(scheduled)*.

Projects

· **Mopsa-wasm** : Porting the MOPSA analyzer to **WebAssembly** with a web interface. Mopsa is an abstract-interpretation-based analyzer for C and Python code, developed in **OCaml, C and C++.**
· **Reactant analyzer** : implementation of an **abstract interpretation**-based analyzer in **Rust** to analyze Web applications that use the **React** library.