Malek BOUZARKOUNA
Graduate Developer
Brunoy, France

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Education

Sorbonne University   **Paris, France**
Master of Science in Software Engineering (STL)   *2023 – 2025*
- **Relevant Coursework:** Distributed Systems, Concurrent Programming, Operating Systems, Compilation, Computer Architecture, Advanced Algorithms.
- **Course of Excellence:** Selected for the advanced curriculum with additional coursework and stricter grade requirements.

Sorbonne University   **Paris, France**
Bachelor of Science in Computer Science   *2020 – 2023*
- Computer Science Major and Mathematics Minor.
- **Relevant Coursework:** Linear Algebra, Probability, Logic, Data Structures, Functional Programming.

Experience

CGI   **October 2024 – September 2025**
Software Engineer Apprentice   *Paris, France*
- Designed the end-to-end migration of a legacy publishing system for client CFE, managing the full lifecycle from cost analysis to integration testing.
- Maintained system reliability for a **legacy C/SQL** codebase, resolving 50+ functional issues in a high-stakes **production environment** under strict 4-hour deadlines.
- Orchestrated build deployment, test execution, and reporting using **Jenkins** to ensure code stability.
- Engineered a robust testing environment by generating complex datasets (**500+ profiles**) to validate data integrity and system performance.

Ex Calibra   **July 2024 – August 2024**
Front End Developer Internship   *Paris, France*
- Directed the frontend development lifecycle, translating Figma prototypes into a responsive admin dashboard focused on **user experience**.
- Built the administrator interface using **TypeScript** and **Redux**, establishing strict type safety and scalable state management.
- Ensured timely delivery in an **Agile** environment by autonomously adapting to shifting priorities.

Projects

Self-Hosted Homelab Infrastructure | *Proxmox, Linux, Docker, Prometheus, Tailscale*   **June 2024 – Present**
- Architected a virtualized environment on a bare-metal Linux server (Proxmox VE) hosting LXC containers and a virtualized Synology NAS.
- Deployed an observability stack using **Prometheus & Grafana** and managed Docker Compose stacks declaratively via **Dockge**.
- Secured remote access via a **Tailscale** mesh VPN, orchestrating services like Plex, Obsidian, and Game Controllers.

Distributed Sensor Network Monitoring [**GitHub**] | *Java, BCM4Java, Concurrency*   **January 2024 – May 2024**
- Implemented a distributed sensor network using the BCM4Java component model, featuring a dedicated interpreter to execute queries across a dynamic, multi-component **system architecture**.
- Formulated two execution models (**synchronous** and high-performance **asynchronous**) to manage concurrency and parallelism with **thread pools**. Validated scalability through performance testing in both single and multi-JVM deployments.

Full-Stack Manga Reader (ScanGo) [**GitHub**] | *React, Golang, MongoDB*   **January 2024 – May 2024**
- Developed a full-stack web application for reading manga using a **React** front-end and a high-performance **Golang** back-end. Integrated the external MangaDex API for data and Cloudinary for image management.
- Integrated secure authentication and community features, incorporating a third-party **AI API** to power an assistive chatbot.

Technical Skills

Languages: Python, Go, Java, C/C++, OCaml, TypeScript, SQL, Bash, Haskell
Frameworks: React, Next.js, Redux, Express, Django, JUnit
Developer Tools: Git, Docker, Jenkins, Linux, MongoDB, SQLite, LaTeX, Wireshark
Spoken Languages: French (Native), English (Professional Proficiency), Arabic (Conversational)