

# Mohamed Hamed MOHAMED AHMED

Software Engineer

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## Profile

Software Engineer at LCL building internal banking platforms serving thousands of agency advisors. Java/Spring Boot backend focus with hands-on experience migrating legacy systems to cloud infrastructure. Open-source contributor to PMD and WeasyPrint. Master's student at Université Claude Bernard Lyon 1.

## Education

**Master's Degree in Computer Science (M1)** Sep 2024 – Present  
Université Claude Bernard Lyon 1, France — Software Engineering, Distributed Algorithms, Big Data

**Licence Informatique (Bachelor's Degree)** Jan 2021 – Jul 2023  
ISCAE / Université de Nouakchott, Mauritania — Algorithms, Data Structures, Web Development, Databases

## Professional Experience

**Software Engineer (Apprenticeship)** Sep 2025 – Present  
LCL, Villejuif, France — Major French retail bank, subsidiary of Crédit Agricole Group

- Maintaining and extending client onboarding and sales portal features used daily by several thousand agency advisors across LCL's retail banking network.
- Developing new features and fixing bugs in microservices for customer account creation and subscription workflows.
- Refactored the document management layer from local filesystem I/O to Amazon S3, a critical step in making the application stateless for the migration to Kubernetes architecture.
- Designing and automating end-to-end test suites integrated into CI/CD pipelines.

*Tech Stack:* Java, Spring Boot, Angular, Amazon S3, Selenium, Cypress

**Full-Stack Developer** Mar 2024 – Jun 2024  
Software Savants, Nouakchott, Mauritania — Software agency specializing in healthcare and startup solutions

- Integrated Saudi Arabia's NPHIES (National Health Information Exchange) API into healthcare backend, ensuring compliance with national interoperability standards.
- Developed API connections for real-time patient eligibility verification and automated insurance claim workflows.
- Worked with healthcare data standards including HL7 FHIR for cross-system interoperability.
- Configured CI/CD pipelines for automated testing and deployment.

*Tech Stack:* Python, Frappe Framework, MariaDB, HL7 FHIR, GitLab CI/CD

**Frontend Developer** Dec 2023 – Feb 2024  
GSM, Nouakchott, Mauritania — IT consulting and technology solutions provider

- Modernized the National PBF (Performance-Based Financing) Portal for the Ministry of Health.
- Built automated reporting systems aggregating data from healthcare facilities across the national territory.
- Developed interactive public dashboard for health metrics visualization with code splitting and lazy loading optimizations.

*Tech Stack:* Next.js, React, TailwindCSS, Data Visualization

**Full-Stack Developer** Feb 2023 – Dec 2023  
Ibtikar Technologies, Nouakchott, Mauritania — IT company building GovTech and digital identity solutions

- Started as intern; promoted to full-time after 5 months based on performance.
- Developed mobile app for traffic officers to digitally record road violations.
- Integrated secure payment gateway for real-time fine settlements.
- Built administrative dashboard centralizing infraction data for operational reporting and resource allocation.

*Tech Stack:* React Native, Node.js, Next.js, MongoDB Atlas, Firebase

## Open Source Contributions

- **PMD** (Static Code Analysis): 2 merged PRs fixing Java parser bugs including switch expressions in super() calls and pattern variables in for-each loops.  
[github.com/pmd/pmd](https://github.com/pmd/pmd)
- **Talawa API** (Palisadoes Foundation): 3 merged PRs achieving 100% code coverage on mutation resolvers (unit and integration tests).  
[github.com/PalisadoesFoundation/talawa-api](https://github.com/PalisadoesFoundation/talawa-api)
- **WeasyPrint** (PDF Rendering): Contributing to the Python HTML/CSS to PDF engine; connected with maintainers.  
[github.com/Kozea/WeasyPrint](https://github.com/Kozea/WeasyPrint)

## Projects

<b>Cloud Image Processing API</b> <i>FastAPI, Python, PostgreSQL, Redis, Docker, Cloudflare R2, JWT</i>	[GitHub]
<ul style="list-style-type: none"><li>• Built REST API for image transformations (resize, crop, rotate, format conversion, filters) with async processing.</li><li>• Implemented Redis caching layer to avoid redundant processing of identical transformation requests.</li><li>• Integrated Cloudflare R2 for cloud storage with JWT authentication and role-based access control.</li><li>• Containerized with Docker and deployed to DigitalOcean App Platform with GitHub Actions CI/CD.</li></ul>	

<b>Weather API</b> <i>Java, Spring Boot, Redis, Docker, Spring WebFlux, Bucket4j, OpenAPI</i>	[GitHub]
<ul style="list-style-type: none"><li>• Developed reactive Spring Boot application consuming Visual Crossing weather API with Redis caching.</li><li>• Implemented rate limiting with Bucket4j and API key authentication for secure access control.</li><li>• Built web interface for testing with comprehensive OpenAPI/Swagger documentation.</li></ul>	

## Leadership & Community

<b>Core Team Member</b> <i>Google Developer Student Clubs, Nouakchott</i>	<b>Oct 2021 – Jul 2023</b>
<ul style="list-style-type: none"><li>• Organized technical workshops and developer conferences at the University of Nouakchott.</li><li>• Grew local developer community through consistent engagement, event planning, and social media outreach.</li></ul>	

## Technical Skills

<b>Languages:</b>	Java, Python, TypeScript, JavaScript, SQL
<b>Backend:</b>	Spring Boot, Spring WebFlux, FastAPI, Node.js, Express.js, Frappe, REST APIs, Microservices
<b>Frontend:</b>	Angular, React, Next.js, React Native, TailwindCSS, Redux
<b>Databases:</b>	PostgreSQL, MySQL, MongoDB, MariaDB, Redis
<b>Cloud &amp; DevOps:</b>	Amazon S3, Cloudflare R2, Docker, Git, GitLab CI/CD, GitHub Actions, Linux
<b>Testing:</b>	Selenium, Cypress, JUnit, Jest

## Languages

**English:** Fluent · **French:** Professional Working Proficiency · **Arabic:** Native