

MAYSSA ELLOUMI

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SOFTWARE ENGINEER

Results-driven Software Engineer with 3+ years of experience in Java, Spring Boot, and full-stack development across insurance, e-commerce, and AI sectors. Proficient in building scalable microservices, RESTful APIs, and real-time systems using Kafka, AWS, and modern CI/CD practices. Thrive in Agile environments, delivering robust, maintainable code through test automation and cross-functional collaboration.

Languages: Java (including Design Patterns, OOP, Data Structures, Microservices, and Collections), Python

Web: HTML, CSS, JSP, JSF, ReactJS

Web Services: REST, JSON

Testing Tools: JUnit, Selenium, Mockito

Frameworks: Spring MVC, Spring Boot, Hibernate

Databases: MySQL, PostgreSQL, MongoDB, OracleDB, Hadoop

Methodologies: Agile (Scrum), Waterfall

Tools & Platforms: Git, Bitbucket, GitLab (Version Control Systems), Maven, Eclipse, IntelliJ, VS Code, SAP Hybris, Jira

Operating Systems: Windows, MacOS, Linux/Unix

Cloud Platforms: AWS (EC2, ECS, S3, Lambda, RDS, Elastic Beanstalk, SQS, IAM, CodeCommit, CodeBuild, CodeDeploy, CloudFront, CloudWatch, VPC, Subnets)

Messaging & Streaming: Kafka, JMS

PROFESSIONAL EXPERIENCE

CAREER NOTE: Completed on-campus studies and currently taking distance education courses to complete a **Master's Degree in Computer Science** (Available for full-time, W-2 employment).

DECADE, Sfax, Tunisia • 09/2023 – 04/2024

Software developer

Project: Intersport

- Developed, debugged, and optimized full-stack geolocation services for a store locator using **Java, Spring Boot, ReactJS, & AWS ECS**, resulting in improved customer navigation & increased in-store traffic by **30%**.
- Built and maintained scalable **RESTful APIs** using **Spring Boot**, integrating with **SAP Hybris** for product catalog and order processing functionalities, and storing dynamic session data and user preferences in **MongoDB**.
- Diagnosed and resolved a critical login failure for newly created fidelity accounts by debugging the network authentication flow, improving user onboarding experience and reducing login-related support tickets.
- Conducted integration and unit testing using **JUnit** and **Postman** to ensure **API** reliability and performance in real-time shopping cart and user account scenarios.
- Leveraged **IntelliJ IDEA** for efficient backend development, including code navigation, **debugging**, and **refactoring** in a large-scale modular e-commerce codebase.
- Collaborated with UI/UX teams to improve the e-commerce platform across desktop/mobile devices.
- Participated in **Agile sprints**, code reviews, retrospectives, and sprint planning sessions, contributing to faster feature rollouts and improved cross-team communication.
- Used **Git** for version control and managed code deployment through **Bitbucket** and **Jenkins** for **CI/CD**.
- Applied Aspect-Oriented Programming (**AOP**) in Spring Boot to modularize cross-cutting concerns such as logging, security, and exception handling, leading to cleaner, more maintainable backend code.

RGI, Tunis, Tunisia • 08/2022 – 09/2023

Software developer

Project: Pass Insurance

- Optimized insurance claims processing systems by implementing custom validation logic in **Java & Spring Boot**.
- Collaborated with **cross-functional teams** to enhance system scalability during high insurance claim volumes by optimizing **OracleDB** queries and introducing caching mechanisms in **Spring Boot** services.
- Integrated **Kafka** into a claim validation subsystem to enable real-time, scalable processing of submitted insurance claims, decoupling request submission from synchronous backend processing and enhancing responsiveness during peak submission periods.
- Decomposed legacy monolithic services into modular Spring Boot **microservices**, enabling independent deployment, improved maintainability, and horizontal **scalability** across the insurance claims platform.
- Implemented **JMS**-based messaging for critical fraud detection workflows, ensuring guaranteed delivery and transactional integrity for high-priority alerts in the insurance claims lifecycle.

- Developed and implemented **CI/CD pipelines** using **AWS Code Commit, Build, Deploy** for **Java** and **Spring Boot** applications in policy management, automating **build, test, and deployment** workflows, reducing deployment time by **40%**.
- Engineered role-based access controls for internal policy and claims platforms using **Java, AngularJs**, and **AWS RDS (OracleDB)**, improving security compliance with internal audit requirements and regulatory standards.
- Built advanced search functionality for insurance customer records using **Java** and **AWS RDS (OracleDB)**, refactored with **Repository Design Pattern** to ensure clean separation between business & data access layers.
- Refactored service controller logic by applying query optimization and **in-memory caching**, decreasing claim lookup latency during peak hours and enhancing responsiveness for customer service agents.
- Wrote **JUnit** and **Selenium** tests to validate critical components, ensuring release stability.
- Participated in **Agile ceremonies** and cross-functional **code reviews**, improving team delivery cadence and reducing integration defects.

Freelance Software & AI Developer, Remote 10/2020 – 09/2022

- Developed a **smart document verification system** using **Python, OpenCV, Flask**, and **MySQL**, enabling automatic extraction and validation of cheque fields (name, date, amount, signature) through image processing and **machine learning**, while managing the full project lifecycle from requirements to deployment and ensuring continuous enhancement based on client feedback.
- Designed and trained **signature matching engine** using **CNNs** (Keras/TensorFlow) with a custom dataset, achieving high accuracy in fraud detection; deployed via **Flask REST API** & integrated into a responsive web dashboard for RT verification—delivered on time with a focus on performance, usability, and client satisfaction.
- Built a **full-stack review platform** using **Java** (Spring Boot), **JSP**, and **MySQL**, with secure user authentication, product browsing, and review submission features enhanced by a role-based access system; the project followed best development practices and was supported with ongoing maintenance to adapt to evolving user needs.
- Delivered a **complete travel booking and management platform** in **Java** (Spring Boot) and **MySQL**, supporting multi-role access for administrators, agents, and clients, with modules for itinerary planning, hotel reservations, and travel package management—executed with attention to detail and backed by strong problem-solving and communication skills that contributed to a 100% client satisfaction.

INTERNSHIP EXPERIENCE

R&D intern: University of Ottawa, Remote• 02/2022 – 07/2022

- Conducted research and development of a blockchain-based P2P energy exchange platform using **Solidity** and **GoLang** for smart contract logic and **JavaScript, ReactJS**, and **Node.js** for decentralized application interfaces.
- Implemented game theory algorithms within smart contracts to optimize pricing strategies and integrated machine learning models using **Python** (SVM, KNN) for **anomaly detection** and **cybersecurity**, reducing vulnerabilities by 35%. Deployed the solution using **Docker** and **Kubernetes** across distributed environments.

ACADEMIC PROJECTS

Maharishi International University Capstone Projects (2024)

- **Framework Development for Banking and Credit Card Systems:** Designed and implemented a scalable software framework for banking and credit card systems, supporting diverse account types and credit cards.
- **Online Shopping:** Developed a full-stack e-commerce platform using **Java, Spring Boot**, and **MySQL**, featuring product browsing, shopping cart management, and order management.

EDUCATION

Master of Science in Computer Science

(In progress via distance education; expected completion 12/2026)

Maharishi International University, Fairfield, Iowa

Key Courses: Enterprise Architecture, Software Engineering, Cloud Computing, Algorithms, RDBMS

Master Degree in Data science

The National School of Computer Science, Tunis, (09/2022)

Key Courses: Machine Learning and Deep Learning, Modeling & Design, Data Processing, Financial Data Science

Bachelor Degree in Computer Science

The National School of Computer Science, Tunis, Tunis (09/2022)

CERTIFICATIONS

[AWS Associate developer \(2025\)](#)