Adam Bouafia

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Education

Vrije Universiteit Amsterdam *Sept 2024 – July 2025*
Master's in Global Software Engineering (GSEEM) in Computer Science
- Specialization: Software Engineering & Green IT

Università degli Studi dell'Aquila *Sept 2023 – June 2024*
Master's in Global Software Engineering in Computer Science

Higher Institute of Computer Science of Mahdia *Sept 2019 – June 2022*
Bachelor's in Computer Science in Software Engineering & Information System
- Final Grade: 15.2/20
- Thesis: Mobile Security App 'M3ak'

Experience

Flutter Intern *Monastir, Tunisia*
Make it Happen *July 2021 – Sept 2021*
- Developed Fiberchat, a full chat & call app clone
- Built a weather app using Flutter and APIs

Developer *Mahdia, Tunisia*
Atomic IT-Pro *Jan 2022 – June 2022*
- Created M3ak, a security app to alert loved ones
- App reached 10,000+ downloads with high ratings

Developer *Paris, France*
Euromed Organization *July 2022 – Dec 2022*
- Developed Dhayen, a mobile security app for a national campaign
- Contributed to the Algerian national awareness campaign: 'Dhayen, Yakfi, Stop!'

Researcher *Pescara, Italy*
Vivieb *Nov 2023 – Feb 2024*
- Optimized energy efficiency in Kubernetes clusters
- Visualized metrics using Grafana, utilized Kubegreen

Master's Thesis Researcher *Amsterdam, Netherlands*
Vrije Universiteit Amsterdam *Sept 2024 – July 2025*
- Developing a blockchain-based energy optimization system for sustainable data centers.
- Designing a decentralized architecture with Layer-2 blockchain solutions for dynamic workload allocation.
- Integrating reinforcement learning and simulation tools for real-time energy-efficient workload management.
- Evaluating the performance and energy efficiency of data center operations using CloudSim Plus and blockchain technologies.
- Contributing to the Green IT field with innovative blockchain applications for sustainable computing.

Projects

Create a Serverless Kubernetes-based Resource Manager *2024-11 (ongoing)*
- Designed a serverless Kubernetes control plane using on-premise solutions like Knative
- Benchmarked system performance under real-world Kubernetes deployment patterns
- Evaluating scalability and elasticity using latency, throughput, and resource usage metrics

Comparative Evaluation of Energy Efficiency in LLMs *Oct 2024*

- Analyzed energy consumption across LLM versions
- Utilized Experiment Runner and DeepEval tools

Smart Fan Project *Sept 2024*

- Controlled environmental conditions in real-time
- Used MQTT, InfluxDB, Grafana for data processing

GramApp-Detect-API *July 2024*

- Developed API for grammar checking and sentiment analysis
- Leveraged NLP techniques for efficient text analysis

Vehicle Routing Problem Optimization *Dec 2023*

- Solved VRPHLB using MILP for delivery optimization
- Applied network optimization techniques

Gas Monitoring System *Feb 2024*

- Built a gas monitoring system using Node-RED and InfluxDB
- Integrated Telegram notifications for safety alerts

Certifications

JNCIA-DevOps (Juniper Networks Certified Associate - DevOps) *Nov 2024*

IELTS Academic - English B2 *May 2023*

Skills

Programming Languages: Python, Java, JavaScript, C++, Dart

Containerization and Orchestration: Kubernetes, Knative, Docker

Serverless and Cloud Technologies: Serverless architecture, AWS Lambda, Knative

Distributed Systems: Consistency, fault tolerance, performance benchmarking

Benchmarking and Performance Evaluation: Experiment Runner, DeepEval, latency, throughput analysis

Data Monitoring and Visualization: InfluxDB, Grafana, Node-RED

Optimization and Algorithms: Mixed-Integer Linear Programming (MILP), Network optimization

Natural Language Processing (NLP): Grammar checking, sentiment analysis, API development

IoT and Real-time Control: MQTT, environmental control systems, data processing

Frameworks & Libraries: Flutter, Spring Boot, Node.js

Tools & Technologies: API Development, NLP, IoT, ML frameworks

Languages

Arabic: Native

French: Fluent

English: Fluent

Italian: Proficient