AYMEN DAOUDI

Software Development Engineer

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EMPLOYMENT

Senior Software Engineer, **Stealth Project**
Montreal.
January 2024 –
Present

- **Viral genomic analyses:** Building an AI/ML platform for viral genome taxonomy analysis with features including:
  - Virus, infection type, and subtype identification through DNA/RNA analysis.
  - Geographic origin prediction for sequences like HIV.

- **Management:**
  - Led a team of five data scientists, engineers, and software developers.
  - Managed sprint planning, task breakdown, and team coordination.
  - Facilitated cross-functional collaboration and alignment.

- **Software Development and architecture:**
  - Developed APIs for analyzing multi-gigabyte viral sequence fasta files.
  - Built a Flutter web application for displaying viral sequences and analysis results.
  - Managed CI/CD pipelines and ETL processes in Python.

- **Environment:** Microservices, REST, Python(Django), C#(.NET8), Dart(Flutter), Docker, Azure, Azure DevOps, Postgres, MongoDb.

Senior Software Engineer, **Divisions Maintenance Group**
(USA) Remote.
April 2022 –
Present

- **Software Development:**
  - Developed microservices and APIs for DMG Pro, a platform connecting maintenance providers with U.S. job opportunities.
  - Promoted software best practices through code reviews, documentation, and technical articles.
  - Implemented CI/CD pipelines using Docker and Kubernetes.

- **Design and architecture:**
  - Built a dynamic validation system for data types (jobs, addresses, components).
  - Created a template engine for marketing teams to manage communications.
  - Developed a CLI tool to scaffold C#/.NET APIs and components.
  - Helped teams migrate from Git flows to Microsoft Release Flow, improving efficiency and reducing bottlenecks.
  - Implemented automated Semantic Versioning (SemVer) across projects.
  - Redesigned APIs using DDD and Onion architecture principles.
  - Built a local QA test environment using **Docker Compose**, **Grafana**, **Loki** and **Prometheus** to reduce costs and improve independence.
  - Enhanced integration testing using Docker for local environments and CI pipelines.

- **Environment:** Microservices, gRPC, REST, Python(Django), TypeScript(NestJS), C#(.NET8), Unit & Integration Testing, Postgres, MongoDb, Elasticsearch, Kafka, Docker, Kubernetes, Github, AWS.

Backend Software developer **AddEnergie**
Montréal, Qc, Ca.
January 2022 –
April 2022

- **Electric charging stations:** Building APIs and services for AddEnergie's network of electric car charging stations.
- **Environment:** Microservices, C#(.Net core), SQLServer, MongoDb, Docker, Kafka, Kubernetes, Azure, Azure DevOps.

Full stack Software developer, **Lloyd's Register OneOcean (ex. MarinePress)**
Montréal, Qc, Ca.
March 2020 –
January 2022

- **OneOcean:** Developed and maintained backend and frontend components of OneOcean, a maritime navigation software that integrates compliance, performance, and safety tools. Key contributions:
  - Implemented CI/CD pipelines and managed DevOps operations.
  - Authored RFCs, documentation, technical articles and presentations.

- **Environment:** Microservices, C#(.Net core), Python(Django + FastAPI), TypeScript(Angular), Unit & Integration Testing, SQLServer, MongoDb, Docker, Kafka, Kubernetes, Azure, Azure DevOps.

Full stack Software developer, **Stratec global**
Montréal, Qc, Ca.
Jan 2019 –
Mar 2020

- **ITMatters:** A platform for managing financial policies, agencies and insurances. Key responsibilities include:
  - Analyzed customer requirements and gathered business rules.
  - Developed the backend for the main web application and a cross-platform mobile app.
  - Contributed to the development of a Xamarin cross-platform mobile application.
  - Implemented CI/CD pipelines and handled various DevOps tasks.

- **Environment:** C#(.Net core), Unit & Integration Testing, Xamarin, MVVM, Rx, SQLServer, Azure, Azure DevOps, AWS.

Research assistant, **UQAM | Université du Québec À Montréal**   Montréal, Qc, Ca.

Sep 2016 –
Dec 2018

- **Main reseach project:** Automatic detection of architectural design patterns (MVC, MVP, MVVM) in Android applications. Key achivements include:
  - Developed a tool for static analysis on Android apps bytecode, source: https://github.com/AymenDaoudi/Rimaz.
  - Conducted bytecode exploration and empirical analysis on thousands of Android applications using the developed tool.
  - Authored and published the research paper "*An Exploratory Study of MVC-based Architectural Patterns in Android Apps*" at (SAC'19).

- **CRIM | Computer Research Institute of Montreal:** Plugin development and a programming language integration in Eclipse for writing flight simulator test cases.

- **Savoir Faire Linux:** Conducted a comparative study on the performance and energy consumption of VOIP serverless applications. Key activities included:
  - Assessed performance and energy consumption of Jami (ex. Ring), Skype, and Tox, focusing on CPU, memory, and bandwidth usage.
  - Benchmarked and compared the results of the three applications.
  - Developed **Netraf**, a Linux tool for monitoring bandwidth usage. Source: https://github.com/AymenDaoudi/NeTraf.

Consultant, **Novasup**   Algiers, Algeria

Feb 2016 –
Aug 2016

- **Windows apps:** Developed, and published mobile apps for several Algerian newspapers on the Windows Store.
- **Environment:** C#, UWP, MVVM, ASP.Net core, Rest, Unit & Integration Testing, Entity Framework, SQLite.

Experience Technical Evangelist Developer (Internship), **Microsoft**   Algiers, Algeria

Dec 2015 –
Aug 2016

- **Microsoft Azure:** Collaborated with ISVs and startups to integrate Microsoft Azure solutions.
- **Environment:** C#, UWP, Entity Framework, Rest, Unit & Integration Testing, SQLite, Microsoft Azure.

.Net developer, **HydraPharm Group**   Algiers, Algeria

Jan 2014 –
Dec 2015

- **Software development:** Developed internal software for reporting and sales services.
- **Environment:** C#, WPF, MVVM, WCF, Unit & Integration Testing, DevExpress, SQLServer 2008.

CERTIFICATIONS

- **Microsoft Certified Specialist**: Programming in C#: Microsoft, License E716-0701(2014).

EDUCATION

Master of Science in Computer Science, **UQAM | Université du Québec À Montréal**   Montréal, Qc, Ca

Sep 2016 –
Dec 2018

- **Main reseach project:** Automatic detection of presentation layer architectural design patterns (MVC, MVP, MVVM) in Android applications.
- **Supervising:** Supervising interns building Xamarin applications.
- **Teaching:** Giving Java courses and workshops for Bachelor students.

Master degree in computer science, **ESI | Ecole Nationale Supérieure d'Informatique**   Algiers, Algeria

Sep 2007 –
Juin 2014

- **Final Project:** Studied, modeled, implemented, and simulated the ranking of web pages using Google's PageRank algorithm. Source: https://github.com/SamTheDev/PageRank-Analyzer

LINKS

- **in LinkedIn**: https://www.linkedin.com/in/aymendaoudi
- **☉ Github**: https://github.com/AymenDaoudi
- **stackoverflow**: https://stackoverflow.com/users/2002048/aymendaoudi

PRIZES AND AWARDS AND OTHER EXPERIENCES

- **Exemption Scholarship | 2016-2018 | UQAM (Université du Québec À Montréal)**: Exemption from additional tuition fees for international students.
- **Microsoft Student Partner | 2011-2013 | ESI (Ecole Nationale Supérieure d'Informatique)**: Participating and organising DevCamps and Microsoft events in Algeria: Imagine Cup, Microsoft TechDays and Microsoft Connect

LANGUAGES

- **English**: Fluent.
- **French**: Fluent. Level C1: 579 (Test de Connaissance du Français, TCF).
- **Arabic**: Mother tongue.

HOBBIES

- Music (Guitar, Drums), Philosophy, History, and … programming too !