Charbel FAYAD

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EDUCATION

Lebanese American University (LAU): School of Arts and Sciences — Byblos, Blat
BS, Computer Science (Honors Program) — 09/2021 – 06/2024
CGPA: 3.98, MGPA: 4 (High Distinction)

National Orthodox High School — Akkar, Halba
GPA: 3.8 (20th Place in Lebanese Baccalaureate) — 07/2021

Languages: Arabic (Native), French (Full Professional Proficiency), English (Full Professional Proficiency)

EXPERIENCE

Software Integration Engineer – Murex — 06/2024 – present
- Developed secure, scalable integrations between more than eighty different systems using MuleSoft and AnyPoint.
- Designed, managed, and documented REST/SOAP APIs to support integrating over 40 internal systems.
- Collaborated with stakeholders to gather requirements, define test scenarios, and deliver business-aligned solutions.
- Developed CI/CD Jenkins pipelines to automate artifact management, security scanning, and deployment.
- Designed, developed, and maintained an internal web application for queue management with access control.

Machine Learning Research – Lebanese American University — 03/2022 – 06/2024
- Developed a genetic programming algorithm to apply federated learning on Binary Neural Networks.
- Designed a new algorithm to exploit population structure in evolutionary algorithms inspired by Network Science.
- Implemented a novel ensemble learning model based on scale free network structure.
- Technologies: TensorFlow, Keras, DEAP, networkx, numpy, pandas

Software Engineering Internship – NinjaCo — 2023 – 3 months
- Designed a complex parser to interpret web-based visual programming blocks.
- Developed a tree-based algorithm to convert the parsed blocks into executable Arduino code.
- Implemented a course-based enrollment system featuring multi-level classes and role-based access control.
- Technologies: NextJs, NestJs, Docker, MongoDB, Mongo Express, Minio, Maildev, Tailwind CSS, React Query, Blockly

Full Stack Software Engineer Internship – Ajjerni.com — 2022 – 3 months
- Developed and maintained an e-commerce web application using Next.js, Strapi, and PostgreSQL.
- Participated in code reviews and provided feedback to improve code quality.
- Technologies: NextJs, Strapi, Docker, PostgreSQL, Minio, Maildev, Tailwind CSS

PROJECTS

Socrat — 05/2024
Developed an open source web-based application using NextJs and WebRTC to enable virtual Socratic dialogues between teachers and students, featuring real-time participation and attendance analytics. • [Live Preview](#) • [Source Code](#)

Attractors Simulation — 05/2022
Developed a fully customizable physics-based simulation of a deterministic chaotic system using JavaScript canvas context 2d, HTML and CSS. Hosted on GitHub pages • [Live Preview](#) • [Source Code](#)

Tourify — 11/2022
Published a full stack mobile application that help tourist explore Lebanon. Frontend in Ionic Angular coupled with a PHP Backend with MySQL as Database. The application source code and preview are available • [Source Code](#)

TECHNICAL SKILLS

Programming Languages: JavaScript – Python – Java – TypeScript – Csharp – Rust – C – Dart – PHP
Frameworks / Libraries: React – NodeJS – Fast API – Flutter – React Native – Tailwind – NextJs – Flask – Strapi
Database: MySQL – Firebase – PostgreSQL – SQLite – MongoDB

SOCIAL SERVICES

Software Engineering Club Founder – LAU – Founded SE club at LAU, hosted workshops, and technical seminars.
Lab Instructor – LAU – Operating System & Computer Programming, assisted students by explaining programming principles.