ALAAELDIN ABDELAAL

Full Stack Developer

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SUMMARY

Detail-oriented full stack developer with proven expertise in **Node.js**, **Angular,** and **RESTful APIs**, delivering secure and scalable authentication systems and automation tools. Experienced in backend development with **Node.js** and **Go**, integrating security protocols like **OAuth2** and **LDAP**. Adept at deploying **automated pipelines** and optimizing software for reliability and performance in complex environments.

EXPERIENCE

Software Engineer

GE Vernova

📅 09/2024 - Present 📍 Rugby, United Kingdom

- Developed a **device authentication and authorization system** using **Node.js**, **Angular**, **Sequelize**, and security protocols including **SSO**, **LDAP**, RADIUS, and **OAuth2**, with a frontend built in **Angular**, **HTML**, and **CSS**.
- Built an **LDAP server** in **Go** that creates, deletes, and authenticates users.
- Created an **automation tool** to update HMI symbols (aliases, positioning, and transformation handling), accessible via both **GUI and command line**.
- Trained an **ML model** to predict ship draft from environmental variables.
- Implemented automated deployment pipelines to generate releases, run unit tests, and detect vulnerabilities in the code.

Graduate Software Engineer

ALTEN - Innovation Lab

📅 09/2023 - 09/2024 📍 Derby, United Kingdom

- Developed a **RESTful API** backend with **Flask**, **SQLAlchemy**, and **PyTorch** to automatically identify objects in live video streams from a mobile application.
- Built a backend system for generating 3D CAD models from mobile-captured images, applying **computer vision** and 3D reconstruction techniques.
- Applied **PyTorch** and **OpenCV** for deep learning, image processing, and 3D reconstruction workflows, enabling automated model generation.

Associate Lecturer

University of Central Lancashire

📅 10/2021 - 08/2023 📍 Preston, United Kingdom

- Taught **C#** programming to students, focusing on writing clean, maintainable code.
- Guided students in **problem-solving** techniques, **algorithm** design, and logical thinking applicable to software development.
- Instructed on **embedded systems** and **robotics**, developing skills in integrating software with hardware, which translates to understanding full-stack application architecture.
- Mentored students on designing and debugging complex systems, strengthening the ability to build scalable and efficient applications.

SKILLS

Node JS Angular HTML CSS

RESTful APIs Sequelize CI/CD

GO SQLAlchemy Linux Docker

Python C# Machine Learning

Deep Learning GitHub Agile

Scrum JIRA MATLAB GIT

EDUCATION

MSc in Applied Data Science

University of Central Lancashire

📅 09/2021 - 12/2022

B.Eng. in Mechatronics and Intelligent Machines (1st Class)

University of Central Lancashire

📅 2020 - 2021

B.Eng. in Mechatronics

Future University in Egypt

📅 2016 - 2019

AWARDS

💎 **ECPC Computer programming contest**

💎 **3rd place in Egypt in the EAEAT National Competition for Industrial Robotics Applications**

💎 **IEEEXtreme Competition ambassador**