Firas BAYOUDHI

Jr IoT Developer

✉ firasbayoudhi@gmail.com   📞 +32 470 48 30 95   📍 Brussels, Belgium   🔗 bayoudhi.be

🔗 /in/bayoudhi/   ⭘ github.com/bayoudhif

PROFESSIONAL SUMMARY

Junior IoT Developer with a solid foundation in embedded systems, web development, and artificial intelligence. Skilled in designing and implementing IoT solutions, with hands-on experience in full-stack web development and machine learning projects. Currently completing a Master's in Applied Computer Science with a specialization in Smart Cities. Passionate about leveraging technology to address real-world challenges and improve operational efficiency.

Technical Skills

- **Languages:** Python , C, C++, Java, JavaScript, SQL , Lua
- **Embedded Systems & IoT:** ESP32, Arduino, Sensor & Actuator Integration, MQTT, CoAP, HTTP, WebSockets, REST APIs
- **Tools & Workflow:** Git, CI/CD basics, JIRA, Agile (Scrum), OOP, Clean Code Principles

Education

Vrije Universiteit Brussel (VUB)   2023 – present
Master of Engineering (MEng), Applied Computer Science (Smart Cities Specialization)

University Of Sousse   2020 – 2023
Bachelor of Applied Science (BASc), Computer Systems Engineering (IoT & Embedded Systems)

Professional Experience

EFFIA Belgium   10/2023 – present
IoT Developer - Part Time   Louvain-la-Neuve
- Developed and deployed IoT-based smart parking management systems.
- Integrated sensors and IoT devices ensuring real-time monitoring and data transmission.
- Conducted extensive hardware testing under various scenarios to ensure operational reliability.
- Collaborated cross-functionally to align technical solutions with business objectives.
- Maintained system security and optimized network reliability.

ETRO VUB   09/2024 – 10/2024
Full-stack Developer - Freelance   Brussels
- Modernized legacy web applications by replacing outdated code with Flask and Bootstrap.
- Optimized MSSQL database structure and query performance.

- Implemented hierarchical access controls using Active Directory and LDAP.
- Enhanced UI and added new features, aligning system architecture with modern standards.

VIVIA-M   01/2023 – 08/2023
IoT Developer - Internship   Sousse
- Participated in the development and integration of IoT solutions.
- Applied agile methodologies and collaborated with multidisciplinary teams.
- Gained hands-on experience in IoT communication protocols and sensor networks.

DRÄXLMAIER Group   06/2022 – 07/2022
Full-stack Developer - Internship   Sousse
- Built a web-based object recognition application using Flask, Bootstrap, and SQLite.
- Integrated Teachable Machine for enhanced computer vision capabilities.
- Improved system responsiveness and database management.

Projects

IoT Air Quality Monitoring System
- Developed an ESP32-based air quality sensor integrated with MQTT, InfluxDB, and a real-time Dash dashboard.
- Monitored temperature, humidity, and air quality for environmental analysis.

Siamese Network for Few-Shot Learning
- Implemented a Siamese Neural Network using mini-ImageNet dataset.
- Integrated custom and fine-tuned ResNet-18 models with data augmentation.
- Evaluated n-way k-shot tasks for image classification.

Comparative Analysis of Machine Learning Models for Weather Forecasting
- Developed and compared Linear Regression, Random Forest, and Neural Network models to forecast temperature using 2023-2024 data.

The Heisenberg Enigma – Java Text Adventure Game
- Designed an interactive, modular Java game featuring dynamic command parsing and NPC interactions, inspired by Breaking Bad.

Object Detection Web-Based Application
- Created a Flask-based web application integrating Bootstrap and Teachable Machine to perform specific object recognition.

Languages

English   **French**
C1   C1