MATHIAS SCROCCARO COSTA

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OBJECTIVE

Senior Software Engineer with 5+ years of experience, seeking full-time Firmware Developer roles.

EDUCATION

Master of IoT Engineering, Unicamp University 2017 - 2019
Relevant Coursework: Sensors signal acquisition and processing; Digital signal processing; Switching power supplies

Bachelor of Electronics Engineering, Federal University of Technology 2013 - 2017

PROFESSIONAL EXPERIENCE

Machine Learning Engineer May 2023 - Current
DevGrid *London, UK*

- Developed REST APIs that efficiently processed data from over 50,000 IoT sensors, utilizing technologies such as FastAPI, RabbitMQ, and Celery workers, mainly through a Event-Driven architecture.
- Maintained Python microservices running on Kubernetes clusters, integrating and processing data structures from REST API's and databases such as Cassandra, Redis and Postgres.
- Orchestrated GitlabCI-based CI pipelines, automating unit and integration tests with libraries like Pytest.

Backend Engineer May 2022 - May 2023
DevGrid *London, UK*

- Developed a REST API surfacing 100M+ Postgres database records of financial and shareholders' data using Python, Flask, and SQLAlchemy. Integrated the data provider to the client's Gateway API.
- Integrated 3rd party Know Your Customer API services according to client-used OpenAPI specification types using Pydantic library and Swagger UI.

Backend Engineer Nov 2020 - May 2022
Eldorado Research Institute *Campinas, BR*

- Designed the backend architecture of an IoT network and implemented gateway and server applications from scratch using Python, Flask, and SQLAlchemy. Ensured adherence to PEP8 standards and SonarQube tool insights through a code audit.
- Optimized deployment by transitioning on-premise Postgres and MongoDB databases to Docker containers.

IoT Researcher Engineer Jul 2017 - Oct 2020
Unicamp University *Campinas, BR*

- Engineered firmware for low-power IoT devices using C and C++ languages, targeting Nordic and STM families. Controlled peripherals like ADC and DAC, managed communication with EEPROM and flash memories via SPI and I2C interfaces;
- Designed PCB schematics and layouts with KiCad for low-power IoT devices, manually prototyped, and tested them using laboratory instruments from Agilent, Hewlett-Packard, and Keysight.

LEADERSHIP EXPERIENCE

Mentored a Junior Developer: Offered instruction on Clean Code and TDD principles, thereby improving the readability and maintainability of the codebase.

Taught a Basic Electronics Course for 25 Undergraduate Students: Independently developed laboratory scripts and guided students in prototyping an electrocardiogram (ECG) generator and acquisition circuit as a Teacher Assistant.