Luis Carlos da Fonseca e Silva Carvalho

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SUMMARY

Experienced Senior R&D Engineer with over half a decade of expertise at Omniflow. Seeking the Senior Software Developer role. Collaborated on smart city solutions with smart city projects ranging from government bodies to large industry giants such as Amazon, Telefónica, Orange and Altice. Full stack in designing and also in the implementation of websites and APIs. Also, I have a track involving managing cross functional teams and offering direction to interns on academic undertakings. Some of my activities have included managing and supervising the cloud environments to achieve performance and network reliability.

EXPERIENCE

Senior R&D Engineer

Omniflow **November 2021 - Present, Portugal, Porto**

- Collaborated with companies such as Amazon, Telefónica, and Orange to develop solutions for smart cities across 20+ countries.
- Designed and implemented full-stack web applications and APIs used globally.
- Led cross-functional teams of up to six members, overseeing software architecture, workload distribution, code reviews, and troubleshooting.
- Mentored and coached interns on scholarly projects.
- Managed cloud infrastructure and ensured network security.

Junior R&D Engineer

Omniflow **January 2019 - October 2021, Portugal, Porto**

- Software developer in projects for smart cities.
- Database manager.
- Cloud manager

PROJECTS

AI/ML at the Edge in Iot Sustainable devices, NVIDIA, and AWS

Omniflow • aws.amazon.com/pt/solutions/case-studies/omniflow-case-study/?did=cr_card&trk=cr_card • December 2023 - May 2024

- Using NVIDIA Jetsons to process object detection models in multiple cameras to extract metrics, and monitor air quality. Data from the edge is sent back to AWS through AWS IoT Core is stored in a database, and, processed by AWS Lambda functions, and for specific actions based on incoming data. Running NVIDIA TAO Toolkit in a Deep Learning AWS EC2 instance to efficiently train and customize object detection models for AI/ML.

Smart City Street Light Controller & addons

Omniflow • www.omniflow.io/ • March 2021 - September 2021

- This project involves a prototype controller based on Raspberry Pi, designed to manage and control street light infrastructure. The controller monitors battery levels and manages street lights, while also tracking the charge from wind, solar, and power grid sources. It adjusts power distribution to various devices (routers, cameras, edge computers, air quality sensors, ...) based on available energy. With LTE, Bluetooth, and Wi-Fi connectivity, it ensures efficient management and control.

IoT Dashboard for smart city management

Omniflow • omniflow.online • January 2019 - August 2019

- This project consisted of dashboard to display historical and real-time data, as a 3D interactive map to visualize the smart city infrastructure in a more intuitive way. The map display data such as traffic patterns, air quality, and energy consumption, and can be customized to present different layers of information. This data is used to identify trends and patterns, and to make informed decisions about how to manage the city's infrastructure, improving safety in different areas of the city.

EDUCATION

Bachelor's degree in electrical and computer engineering

Instituto Superior de Engenharia do Porto • Portugal, Porto • 2020

SKILLS

Front-End:HTML, CSS, JavaScript, Jquery, D3.js, React

Back-End:PHP, Python, MySQL, PostgreSQL, Sqlite, AWS, Node.js, Postman

Embedded: C, Python, bash , Linux

Others: Github, Docker, NVIDIA Jetson, Raspberry Pi