Daniel Surizon

Embedded Software Engineer

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Skills

- Embedded C programming on Linux.
- Python.
- MQTT.
- Jira.
- Protobuf and REST API.
- RAG with Langchain, HuggingFace, and Ollama.
- Git.
- Problem-solving.

Experience

SolarEdge Technologies / Software Engineer
2021 - Present

- Designing and developing features from scratch, involving detailed requirement analysis.
- Resolved parallel threading issues in MQTT using mutexes, MQTT as IPC (paho.mqtt).
- Worked with Protobuf over REST API for server communication.
- Led projects to renew certification for the Australian market by addressing communication time issues, and collaborating with certification labs.
- Enhanced telemetry performance by 53% by optimizing communication, leading to efficient data handling.
- Applied deep and broad code and system understanding to debug and fix legacy code, utilizing code traces and thorough investigation of weak points.
- Developing an internal RAG application using Langchain and Ollama for local operation, aimed at summarizing planning documents and Confluence pages to optimize efficiency.
- Managed integration with future clients, providing assistance and troubleshooting with the support team.

KANDO Clear Upstream / Embedded Software Engineer
2019 - 2021

- Developed and maintained code for wastewater management systems.
- Integrated external sensors and developed sensor drivers.
- Implemented infrastructure improvements.
- Developed the 'City-level SARS-CoV-2 sewage surveillance' system, Covid-19 sewage tracking.

RB-Systems / Embedded Software Engineer
2018 - 2019

- Driving aids for disabled drivers, interfacing with vehicle communication systems (CAN-BUS, LIN-BUS).
- Utilized SPI & UART on Microchip CPUs with MPLAB X for system development.
- Reverse engineer the car data and communication using a physical sniffer.

Education

Ruppin Academic Center / B.Sc. Electrical and Electronics Engineering
2015 - 2019

- Developed a spectrophotometric otoscope for diagnosing ear infections using spectroscopy techniques.
- Applied machine learning and data analysis in Python and MATLAB to enhance diagnostic accuracy.
- Implemented Principal Component Analysis (PCA) for data reduction and visualization.

Awards

Corona Hospital Establishment in Angola, Africa
2020

- Contributing to setting up Corona field hospitals in Angola during the pandemic. Collaborated with locals under challenging conditions to construct hospitals in Cabinda and Dundo, overcoming language barriers and contributing to the local healthcare system.

SEAGATE Innovator of the Year
2019

- Represented KANDO as the first-place winner for developing the 'City-level SARS-CoV-2 sewage surveillance' system, a pioneering initiative in COVID-19 sewage tracking.