Joao Guilherme Lopes

Norwich, Norfolk

Portfolio: joaoguilhermelopes.github.io/JoaoGuilhermeLopes-Portfolio/

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Embedded Software Engineer with 2 years of experience developing real-time, production-grade systems across embedded platforms. Skilled on full product life-cycle development and hardware prototyping, with proven ability to reduce system errors, enhance integration and deliver robust embedded solutions in fast-paced environments.

EXPERIENCE / KEY PROJECTS

Embedded Software Engineer

Borg&Overström - *Norwich, UK*

05/2023 – Present

- Led software prototypes, supporting end-to-end product development, OEMs integration and testing.
- Integrated and enhanced diverse communication interfaces into embedded systems, including BLE, IoT, I2C, SPI, CAN, UART, MODBUS, RS232, RS485, among others.
- Designed and optimized hardware schematics for both production-ready and prototypes systems using EAGLE and Altium.
- Implemented automated testing systems for production, reducing manual errors and increasing efficiency by 30%.
- Reduced customer support tickets by 80%, result of software quality improvement through firmware updates and bug fixes across multiple products.
- Collaborated for product certification and compliance processes to meet industry standards.
- Developed traceability systems to enhance production monitoring and diagnostics.
- Integrated database driven MCUs flashing processes into production lines, streamlining mass programming and configuration.

Freelance

Database system - *Coventry, UK*

11/2022 – 04/2023

- Developed a database system using SQLite to efficiently manage restaurant table bookings, streamlining the reservation process and enhancing the staff experience.
- Implemented dynamic table conditions including capacity, remaining service time and assigned waitstaff to optimize table management and service flow.

University Dissertation

Room Conditioning Automation System - *Coventry, UK*

06/2022 – 09/2022

- Designed and implemented a centralized room condition automation system for controlling and regulating environmental elements with both automatic and user-configurable modes.
- Developed a versatile GUI system with an intuitive user interface, enabling broad user control and a smooth interaction experience.
- Designed a PCB incorporating all necessary hardware components, ensuring seamless integration with the embedded system for optimal performance.

EDUCATION

Coventry University | Coventry

Foundation Engineering - Upper Second Class (2:1)   Sep/2018 – Jul/2019
BEng in Computer Hardware and Software Engineering - Upper Second Class (2:1)   Sep/2019 – Jan/2023

SKILLS

Programming
- C, C++, Python, Java, JavaScript, SQL, HTML, VHDL, Assembly

Communication Protocols:
- I2C, SPI, UART, SWD, BLE, MQTT, CAN, RS232, RS485, MODBUS, MIPI

Platforms
- Mac OS, Microsoft Windows, Linux (Ubuntu, Slackware, Debian), Android

Hardware Design
- EAGLE, Fusion360, Altium Designer

Embedded Systems
- Nordic, NXP, ITE, ESP-32, Raspberry Pi, ARM Mbed microcontroller, Arduino

Development Tools
- Visual Studio Code, GitHub, Flutter, IntelliJ, Xcode, Android Studio, Pico Log, MATLAB, Proteus, Office

Toolchains:
- SEGGER Embedded Studio, MCUXpresso, NRF Connect

SKILLS

License – Full UK Driving License   February 2023

Photoshop Certification - Coventry University   March 2022

Java Programming: Arrays, Lists, and Structured Data - Duke University (Coursera)   June 2020

Cyber Security - Coventry University   December 2019

Languages: English (fluent), Portuguese (native), Spanish (fluent)

Communication: Design proposals, technical reports, presentations (large and small audiences)