Joao Guilherme R. F. Lopes

West Midlands, Coventry
Website: joaoguilhermelopes.github.io/JoaoGuilhermeLopes-Portfolio/
LinkedIn: www.linkedin.com/in/joao-guilherme-lopes **| Email:** joao-lopes12@hotmail.com
Phone: (+44) 07926971015 | **Repository:** github.com/JoaoGRLopes

I am a Software Engineer with diverse project-based experiences in various programming languages and their respective software platforms. Also, with some expertise in hardware implementations such as circuit configuration, program testing and PCB designs. Confident teamwork and communication skills gained from university and freelance opportunities that can ensure a structured and organised approach to quality delivery.

EDUCATION

Coventry University | Coventry Sep/2019 – Nov/2022
BEng in Computer Hardware and Software Engineering - Upper Second Class (2:1)
Coventry University Group | Coventry Sep/2018 – Jul/2019
Foundation Engineering - Upper Second Class (2:1)

SKILLS

Programming: Java, Python, C, C++, SQL, HTML, VHDL, Assembly
Platforms: Linux (Ubuntu, Slackware, Debian), Microsoft Windows, Android, Mac OS
Hardware: Raspberry Pi, ARM Mbed microcontroller, Arduino, ESP-32
Software: Office, Android Studio, Visual Studio Code, IntelliJ, GitHub, Proteus, Vivado, Mars, Eagle, MATLAB

EXPERIENCE / KEY PROJECTS

Freelance Software Developer (Java)

- Designed a back-end system that allows to manage bookings of tables in a restaurant.
- Implemented conditions for each table such as number of people, remaining service time and the responsible waiter

Room Conditioning Automation System Using (Mbed - C++)

- Implemented a centralized room conditioning automation system using a STM32F469NI board in Mbed – C++ language to control the elements of a room and regulating them as the user desired.
- Designed the respective system GUI with the respective menus/submenus available for each element.
- Designed and printed a double layer PCB board for the board and all the selected hardware components.
- Created multiple classes, objects, pointers, interrupts, threads and timers and imported some required libraries in order to be able to control automatically/manually the different elements in the system.

Client and Server based Library Management Systems with GUI (Java)

- Designed a GUI system using AWT and swing libraries to manage available data on an SQLite database.
- Developed UML diagrams for each application, representing how the system communicates and develops in the client-server.
- Designed both client and server divisions of the system and developed them with the objective for these to communicate with each other and exchange necessary information over a TCP network.

Bar Graph Display (C++)

- Created an application using sStream library to read, write or create .csv files to plot a desired bar graph table and counting the total amount of characters to display the graph and to fill the required gaps.
- Implemented features to display the bar graph in a 2-dimension space using ASCII art and an optional save option for the developed graph.

Single-Cycle CPU

- Using System Verilog, it was designed a single cycle CPU.
- Extended the processor design to support more instructions like R-Type, sb, andi, and more.
- Implemented these extended features to the code for every new instruction, modifying crucial module areas such as Datapath, controller, decoders, instruction/data memories and interfaces.
- Created a testbench to inspect all the instructions by checking for possible errors.

Agile Development

- Cooperated as a team with colleagues from different courses with the objective of completing a project of an automation system where it required to develop front end, back end and required hardware.
- As a team leader, took the responsibility of allocating the appropriate tasks for each element in the group regarding their skills and previous experience.
- Made sure that the project met the appropriate quality by maintaining track of version control updates of all the steps and choices required.

Embedded Microprocessor Project

- Designed a system that managed a conveyor belt and the surrounding temperature from a medical warehouse using a PIC18F4520 microcontroller.
- Implemented the login password system with multiple available combinations.
- Coded a temperature regulation system that measures and automatically regulates the surroundings.
- Using a light sensor, created a production line system that counts passing boxes (counter interrupts), that when reaching a certain value, would freeze the entire system for a specific amount of time.
- Designed and tested using Proteus, a simulation schematic of the circuit with all the required circuits, later with substantial hardware.

ACTIVITIES / 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

Pascal Programming Language – College — May 2019

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

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