

BARTH ANGELO

873-355-2812

j.barth.angelo@gmail.com

WWW: [Bold Profile](#)

SKILLS

- Bilingualism : French and English
- Programming : Python, Java, C, C++, Kotlin
- Web programming : HTML, CSS, JavaScript, TypeScript, React, Bootstrap, Flask, Django, Angular, Spring
- Virtual machines : VirtualBox, VMware
- Databases : MongoDB, Firebase, MySQL
- Database Management, Frontend, Backend, Full-Stack, services REST/JSON, Git/Github
- Mastered software and tools: Android Studio, Quartus, pgAdmin 4, Matlab, IDLE, Eclipse, IntelliJ, Visual Studio Code, FreeRTOS, STM32CubeIDE, Microsoft Office (Word, Excel, PowerPoint, Outlook, OneDrive)

EXPERIENCE

UNIVERSITY OF OTTAWA

Ottawa, Ontario

Teaching Assistant (Operating Systems Class)

01/2024 to 04/2024

- Contributed to comprehensive assessment of students and provided constructive feedback on their projects
- Supervised and instructed students in laboratory and tutoring sessions
- Ensured optimal functionality of computer labs for student assessment and provided lab support for students
- Implemented effective communication strategies to facilitate students' achievement in their academics.
- Helped the professor with material generation, lesson plan development, class preparation, scheduling, exam distribution, and student mentoring.

WINNERS MERCHANTS INTERNATIONAL L.P.

Gatineau, Québec

Store Associate

06/2022 to Current

- Provided exceptional customer service
- Identified problems or discrepancies in inventory levels and notified supervisor accordingly.
- Maintained proper organization of store inventory
- Provided cash register operations and handled customer payments.
- Performed daily opening and closing procedures for store operation.

EDUCATION

BACHELOR OF APPLIED SCIENCE: COMPUTER ENGINEERING

04/2024

Faculty of Engineering, University of Ottawa, Ottawa, Ontario

- University of Ottawa Merit Scholarship (2020)
- Dean's Awards (2020)

PROJECTS

AI Waste Sorter (Capstone Project, Fall 2023 - Winter 2024)

Develop an AI Waste Sorting Machine that can detect different types of waste thanks to the image classification developed with artificial intelligence.

Jetson Nano, Arduino Uno, Tensorflow, PyTorch, React, MongoDB, Flask, Python, C, HTML, CSS, JavaScript

- Developed the image classification algorithm with Tensorflow and then PyTorch based on a set of images of different wastes saved in our database
- Implemented the code of the motors, sensors and camera and connect them to the Arduino
- Implemented the user interface with React to display our recycling results and show the level of garbage filling
- Set up communication between the Arduino, the Jetson Nano, the mongoDB database and the UI
- Designed our machine with parts created with 3D printers and connect the different parts with the Jetson Nano, Arduino and motors to make it operational

SQL database and website for a chain of hotels

- Designed the entity-relationship diagram and the relational diagram of the database to find the perfect structure
- Set up the database with SQL and implemented the relationships and constraints between the different instances to meet the requests of the chain of hotels
- Implemented the user interface using HTML and CSS and connected it to the backend

Traffic lights embedded system

- Developed a traffic lights system using FreeRTOS and STM32CubeIDE on the Nucleo-F446RE board
- Implemented with C the code for the LEDs representing the lights and the push button for the pedestrians
- Ensured real-time operation of the system with FreeRTOS

Alarm System

- Developed an alarm system by integrating a 4x4 keyboard, a LCD screen, a motion sensor and a buzzer with the Nucleo-F446RE board
- Implemented the functionalities of the system with C code like setting a password via the keyboard, arming or disarming the system, displaying the system status on the LCD screen
- Ensured the real-time behavior and the efficiency of the system with FreeRTOS

Pipeline Processor with VHDL

- Enhanced the performance of a RISC processor by adding pipelines to the processor with VHDL
- Implemented the parallel structure of the pipeline processor with its 5 different stages and provided extensibility for additional operations
- Modified the datapath and controlpath by adding new registers and control signals to fit the pipeline structure
- Tested the efficiency of the new processor by executing Load, store, arithmetic and logical operations in parallel

Pharmacy Prescription Management System

- Designed the UML diagram and the context diagram to establish an overview of the system
- Implemented all the functionalities of the administrator, the doctors, the pharmacists and the patients to make the system operational
- Designed the web application with Angular, Spring Boot and Kotlin and ensured data security of the system

Design of an application named Service Novigrad on Android Studio (Fall 2020)

Service Novigrad is a platform responsible for processing requests for administrative documents from residents of the province of Novigrad.

- Created the project UML class diagram that describes the link between the different classes programmed for the application
- Implemented the user interface for Android phones
- Edited the code for the features of the administrator, employees and customers
- Tested the application by running it on Android phones and by running some unit tests

Presentation of a technical report and a business plan for a start-up

- Identified a start-up idea (My Knowledge, educational platform)
- Wrote the business plan (product, price, distribution, advertising, promotion, etc.)
- Wrote the technical report considering the parameters related to the engineering profession to be taken into account in the realization of the project
- Exposed the project to the professor through a PowerPoint presentation