Alan A. Bayolo Osorio

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EDUCATION

Graduate Diploma in Computer Science Sept. 2021 – Dec.2022
Concordia University, Montreal, QC

Bachelor of Engineering, Mechatronics Engineering Aug.2016 – Dec.2020
Anahuac Mayab University, Mérida, YUC, Mexico

- Received the CENEVAL excellence award for obtaining an outstanding score in the EGEL graduate exam.

TECHNICAL SKILLS

- Programming Languages: C++, C, Python, Java, Javascript, PHP, HTML/CSS
- Database: MySQL
- Tools: GIT, Jira, Siemens NX, Fusion 360, ANSYS Workbench, Proteus, MATLAB, Coppelia, FluidSim
- Environments: Windows, Linux, Mac OS
- Design: Adobe XD, Figma
- Others: Microcontroller programming, IoT, electronic circuit design, and testing

CAREER-RELATED EXPERIENCE

Materials applied for IoT Researcher Feb.2020 – Dec.2020
Anahuac Mayab University, Mérida, YUC, Mexico

- Investigated the application of a graphene-sheet coupon as part of an IoT environment
- Designed a circuit using a Microchip PIC microcontroller, a gyroscope module, and a Wi-Fi module for communication with the server
- Mounted a database for communication between the actuators, the trigger, and a web interface
- Set up a local server and built a web platform interaction and visualization
- Modeled the piezoresistive response of the material using Finite Element Analysis
- Reported on a bi-weekly basis to the supervisor and wrote a short thesis on the project

CAREER-RELATED PROJECTS

Class Management Web App

- Collaborated with 3 developers to build an application based on PHP, Javascript, HTML/CSS, and MySQL
- Learned about Database design, keys assignment, and decluttering
- Employed a coding pipeline based on GitHub for consistent code among peers
- Conducted weekly meetings to assess the goals and progress
- Designed the look and feel for the front end using AdobeXD
- Mounted the WebApp to the university's server

Dictionary Creator

- Wrote an app in C++ that subtracted and generated tokens for each word from an input text file
- Generated an ArrayList with the number of occurrences per unique token.
- Sorted the tokens according to different criteria and printed them in an ordered fashion.
- Made use of a variety of data structures as well as the C++ STL

Conveyor Belt automatization with Robotic arm

- Simulated an environment of a production line consisting of a conveyor belt and a robotic arm in Coppelia
- Calculated the degrees of freedom for the robotic arm
- Programmed the behavior of the robot with Matlab guided by the equations obtained
- Created an interface between the output of the equations and the robotic arm
- Designated a behavior of pick and place triggered by a sensor on the conveyor belt

LANGUAGE SKILLS

Spanish (Native), English (Bilingual), French (B1)