Pedro Leite Electrical Engineering Student

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TECHNICAL SKILLS

Programming Languages
- C/C++/C#
- Python
- Matlab/Simulink
- Dart/Flutter
- SQL
- Verilog

Software
- Altium
- Multisim
- Solidworks

Others
- Oscilloscope
- ROS
- Soldering

EDUCATION

University of British Columbia **May, 2023**
Bachelor of Applied Science – Electrical Engineering

TECHNICAL WORK EXPERIENCE

Oceangull, *São Paulo, Brazil* **May, 2021 – August, 2021**
Data Engineer Internship
- Worked on backend development of an integrated system for a textile factory
- Learned how to interact with mysql database using python
- Built alongside with my team a web scraper to gather online information automating manual labour
- Developed strategies and scripts for data analysis of business information
- Assisted in designing and build data visualization and make decisions using datastudio

Contact: Igor Crivellari – crivellari@gmail.com

Automni Artificial Intelligence, São Paulo, Brazil **June, 2019 – August, 2019**
Student Robotics developer Internship
- Eliminated labor cost by automating indoor vehicles by employing machine learning
- Developed a small-sized autonomous robot (turtlebot) for testing and quality control tasks using ROS(Robot Operations System) fundamentals
- Deployed motor driver to control stepper motor and employed a magnetic encoder to trace robot's position

Contact: Andre Abrami – contato@automni.com.br

TECHNICAL PROJECTS

Scara Robot, UBC **January, 2022 – April, 2022**
- Designed a Hbride multilayer PCB for two brushless DC motors rated at 48V 5A in Altium
- Designed a 400W power supply board and a 20V-48V boost converter in Altium
- Validated the PID controller and the FIR filter using Matlab and SimulationX
- Implemented the path planning and inverse kinematics algorithm into the STM32 using rtos and C

Simple I-Pod, UBC **February, 2021 – March, 2021**

- Designed and implemented a FSM using System Verilog to communicate with the audio samples in flash memory built into a FPGA(De1-SoC)
- Added a keyboard functionality to play/pause, speed up/down and play previous/next song
- Utilized Quartus and Signal Tap to debug the modules
- Implemented a talking calculator that emulates the SPO256 speech synthesizer utilizing the Picoblaze processor
- Designed and implemented a FSM that communicates the ascii keys of the keyboard with the speech synthesizer.

Reflow Oven Controller, UBC **January, 2020 – March, 2020**

- Built a reflow oven controller utilizing a 8051 microchip (P89LPC9351)
- Design an application employing an ADC (Analog to Digital Converter) and Python to read and graph the oven's temperature using a thermocouple
- Developed a FSM to control the PWM input of the the solid-state relay (SSR) regulating the power delivered by the oven
- Implemented the user interface using assembly language and a LCD display to control the FSM

Coin-Picking Robot, UBC **March, 2020 – July, 2020**

- Constructed a robot that tracks and collects coins on the ground leveraging an inductor, an electromagnet, and a servo motor
- Developed a application that controls the robot using microprocessors of the 8051 family (AT89LP51RC2, EFM8LB1) utilizing Makefiles and C programming

ENGINEERING STUDENT TEAMS

UBC Formula Electric, Vancouver, British Columbia **September, 2019 – Present**

Design Team Member

Student engineering design team from UBC that designs and builds electric race cars to compete in the Formula SAE series

- Designed and wired the electric harness of the race car
- Included io sensor for cell temperatures into main firmware codebase
- Developed firmware for the power limitations of the battery cells based on the Soc and cell temperatures using rtos and C
- Developed the Tractive System Active Light PCB using altium

Contact: http://www.ubcformulaelectric.com/

OTHER WORK EXPERIENCE

Tennis Coach, Campinas, Brazil

- Coached ten kids and adults tennis during high school

VOLUNTEER EXPERIENCE

EML, Vancouver, Canada **February, 2021 – May, 2021**

- Worked to create virtual-reality tools to aid anatomy education for the Pterygopalatine Fossa (http://eml.ubc.ca/projects/fossa-finder)
- Learned to create and interact with objects in Unity and C#