Matthew Dias

github.com/matthewdias — matthew.d.dias@gmail.com — in/matthewddias

Summary

- Experienced with C/C++, Python, Java, BASH, TCL and VHDL
- Experience working with oscilloscopes, function generators, multimeters and VNAs

Work Experience

NVIDIA *Santa Clara, CA*

Systems Software Engineering Jan – April '18

- Worked on features of the DriveIX C++ Driver Monitoring SDK such as driver gaze mapping, calibration and ...
- Designed a client application for the Raspberry Pi that used Google Protobufs to communicate with the DriveIX server and controlled mirrors, locks, windows and other vehicle hardware
- Used Python OpenCV to design user interfaces for vehicle dsplays that showed driver monitoring status

Evertz Microsystems *Markham, ON*

Embedded Systems Developer May – Sept '17

- Used OpenOCD to develop an application used to store files in CPLD flash memory via JTAG
- Created a virtual file system for Linux using C to act as an interface for the storage application
- VHDL based FPGA development, on-chip debugging and firmware configuration to allow for the transition from an Intel to XPliant ethernet switch

Eaton *Mississauga, ON*

Engineering Intern Sept – Dec '16

- Developed VBA scripts to collect project management metrics from Basecamp
- Developed a library of commands for AutoCAD using LISP to automate the process of preparing drawing exchange files for database import, saving 3 hours per file
- Managed lighting control device databases using PostgreSQL queries

Extracurricular

UW Robotics Team

- Designed the schematics and PCB layout of various boards for the Mars rover using Diptrace
- Design, LTSpice simulation and testing of voltage regulators and a power supply selector system for the battery management board

Research

- Worked with the UWaterloo Biomedical Systems Research Group on developing a concussion diagnostic tool for Android
- Used OpenCV to detect a user's hands and track disparities in their motion during a simple motor test
- Able to process frames in real time or from a video recording

Projects

Teamlines *https://git.io/vdUZC*

- Developed an Android app to display up-to-date Twitter timelines of professional sport teams
- Created python scripts to scrape team rosters and player information from Wikipedia and Twitter

Retro Games *https://git.io/vdUZE*

· Designed games similar to Space Invaders and Flappy Bird for the TI Tiva-C microcontroller
· Wrote firmware for timers, interrupts, an ADC, a 4-bit DAC and to interface with various GPIO

Education

University of Waterloo Sept '14 – Apr '19 *(expected)*
Honours Bachelor of Applied Science in Electrical Engineering *GPA 3.5*