Matthew Dias

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Summary

- Industry experience with embedded systems, systems software and computer vision
- Experience in C, C++, Python, Java, MATLAB, BASH, TCL and VHDL

Work Experience

NVIDIA *Santa Clara, CA*
Systems Software Engineering Jan – April '18

- Integrated new features in the gesture detection, faceID and gaze tracking image processing pipelines
- Designed Python and C++ client applications for the DriveIX server using Google Protobufs
- Created a driver monitoring UI for in-vehicle displays using PyQt
- Developed a Raspberry Pi app to allow DriveIX to control a vehicle's mirrors, locks, and windows
- Automated the collection of voice recording, gaze and head position data for neural network training

Evertz Microsystems *Markham, ON*
Embedded Software 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
- Created a library of commands for AutoCAD using LISP, which automated the process of preparing drawing exchange files for database import, saving 3 hours per file
- Managed lighting control device databases using PostgreSQL queries

Extracurricular

UWaterloo Biomedical Systems Research Group *git.io/vxDDR*

- Created an Android application that used computer vision to attempt to diagnose concussions
- Used OpenCV to detect a user's hands and track disparities in their motion using optical flow

Projects

Teamlines *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 *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*