

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

- **Worked on DriveIX image processing features such as gesture detection, faceID and gaze tracking**
- **Designed Python and C++ client applications for the DriveIX server using Google Protobufs for data serialization**
- Created a driver monitoring UI for in-vehicle displays using PyQt
- **Developed a Raspberry Pi application 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

Honours Bachelor of Applied Science in Electrical Engineering

Sept '14 – Apr '19 (*expected*)

GPA 3.5