NATHANIEL TODD

MACHINE LEARNING ENGINEER

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NathanielTodd

Skills

PROGRAMMING LANGUAGES

C++
Python
C
Matlab
Java
VHDL
MIPS Assembly
x86 Assembly

ENVIRONMENTS

ROS
Unix
Linux
Arduino
Windows

COURSEWORK

Machine Learning
Computer Vision
Algorithms
Algorithm Implementation
Formal Methods
Data Structures
Embedded Systems and Microcontrollers
Systems Software
Signals and Systems Analysis
Microelectronic Circuits
Digital Logic
Discrete Mathematical Structures
Robotics Intelligence: Planning
Computational Photography
Big Data Ethics
Deep Learning
Machine Learning Theory
High Performance Parallel Computing

Education

GEORGIA INSTITUTE OF TECHNOLOGY — Aug. 2018 to Current
M.S. Computer Science 2020
Specialization: Machine Learning
Specialization: Perception and Robotics
GPA: 3.8

UNIVERSITY OF PITTSBURGH — Aug. 2014 to Apr. 2018
B.S. Electrical Engineering 2018
Minor: Computer Science
Concentration: Signals and Systems
GPA: 3.6 - Magna Cum Laude

Employment

Georgia Institute of Technology — Atlanta, GA
Graduate Teaching Assitant — Jan. 2019 to May 2019
- CS 4731/7632 Game AI Course
- Graded Homeworks/Exams
- Addressed technical and administrative issues
- Held office hours to assist students with class topics

Bloomfield Roboitcs — Pittsburgh, PA
CV/ML Intern — May 2019 to Current
- Applied GPU accelerated classical stereo vision
- Updated Deep Network Architecture for object Detection

ABB Inc. — Oakmont, PA
R&D Engineering Co-op — Jan. 2017 to Dec. 2017
- Completed two co-op rotations, one in hardware design and one in software design
- Designed and prototyped TPS13 Turbine Protection System Board
- Used OrCAD Capture and Layout to produce necessary schematics and PCB layouts
- Programmed embedded software for TPS13 using C and VHDL
- Developed project overview document to assist future interns to understand the technical steps of board development

General Electric Power Conversion — Pittsburgh, PA
EID Internship — May 2016 to Aug. 2016
- Assisted in design and configuration of drive control software
- Collaborated with project engineers to complete motor drive installation and commissioning at test site
- Gained an understanding of the Services Team to complete a work instruction package
- Organized software summaries and documentation for New Product Introduction design reviews

Mow'n'Go — Greensburg, PA
Owner — Apr. 2013 to Aug. 2015
- 40+ hours per week, led 2 full time employees and other contracted employees
- Maintained between twenty and thirty lawns per week with Independent Landscaping
- Performed all mechanical maintenance and repairs

Projects

Camera Calibration and Fundamental Matrix Estimation with RANSAC — Oct. 2018 to Nov. 2018
- Developed a method for improving the local feature matching application.
- Calculated fundamental matrix to relate points along epipolar lines and eliminate feature matches not satisfying the epipolar line relation.

Local feature Matching Application — Sept. 2018 to Oct. 2018
- Created local feature matching algorithm by recreating a version of Harris' Corner detector, a SIFT descriptor, and a feature matching function.

Senior Design Interactive Surface Localization System — May 2017 to Aug. 2018
- Designed low cost IR tracking system that can turn any display/surface into an interactive workspace