NATHANIEL TODD

STUDENT, MASTER OF SCIENCE IN COMPUTER SCIENCE

Objective: Seeking full time position as Machine Learning or Vision Engineer starting summer 2020.

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NathanielTodd

Skills

PROGRAMMING LANGUAGES

Python
C
C++
Java
Matlab
Assembly

ENVIRONMENTS

ROS
Unix
Linux
Windows
Pytorch
Tensorflow

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
Intro to Database Systems

Education

Georgia Institute of Technology — Aug. 2018 to May 2020

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

Bloomfield Robotics — Pittsburgh, PA

CV/ML Intern — May 2019 to Aug. 2019

- Applied GPU acceleration classical stereo vision
- Experimented with deep network architectures for object detection
- Fine-tuned existing networks with proprietary training data
- Integrated vision systems with ROS on Nvidia TX2 and Xavier platforms

Georgia Institute of Technology — Atlanta, GA

Graduate Teaching Assistant, Graduate Research Assistant — Jan. 2019 to May 2019, Aug. 2019 to Current

- CS 4731/7632 Game AI Course TA
- Graded Homeworks/Exams
- Held office hours to assist students with class topics
- Developed Android Java Applications for GTRI Advanced Concepts Laboratory

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

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Awards

IARC7 · Best Systems Award and Awarded Most Points in American Venue — July 2017

- Member of University of Pittsburgh Robotics Club IARC7 Team
- Worked in with ROS and controller design
- Assisted with thrust predictive modelling

Pitt Innovation Institue, · Big Idea Competition - Awarded Cash Prize Runner Up Idea — Apr. 2016

- Developed web and android app framework to expedite shopping process
- Conducted competitive analysis research to narrow target market
- Collaborated with investors to build elevator and business pitches

Rowan University · Profhacks, Multiple Awards — Mar. 2016

- Best Use of Amazon Web Services, Best Tech Website, Best Internal Integration
- Developed web application to re-route self-driving cars to the nearest hospital in the case of an emergency

Swanson School of Engineering · Best in Section Conference Paper — Apr. 2015

- Best Use of Amazon Web Services, Best Tech Website, Best Internal Integration
- Developed web application to re-route self-driving cars to the nearest hospital in the case of an emergency

Volunteering

Pitt Make a Difference Day · Annual Volunteer — Aug. 2014 to Apr. 2018
Pittsburgh, Pa