Caleb Patton

Senior in Computer Engineering
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Portfolio Websites
cap099.github.io
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Education

University of Illinois at Urbana-Champaign
May 2022 (Expected)
Bachelor of Science, Computer Engineering
GPA: 3.77/4.0

Top Skills

Python, C/C++, ROS, Robotics, PyTorch, Machine Learning, Deep Learning, OpenCV

Professional Experience

Brunswick Corporation, Champaign, Illinois — *Robotics Software Intern*

February 2021 - December 2021

- Developed an obstacle detection system in Python that combined the outputs of 4 Machine Learning models using SLAM techniques, Scikit-Learn, Scipy and ROS
- Ran Faster RCNN, Mask RCNN algorithms and mapping algorithms on mobile robotic platforms using LiDAR Sensors and Raspberry Pi Cameras
- Implemented a Split and Merge style mapping algorithm based on 2D LiDAR data
- Oversaw the data collection and labeling process for RGB and IR image data, as well as LiDAR data in a marine environment

Xaptum Inc, Chicago, IL — *Data Science Intern*

January 2020 - August 2020

- Prototyped an Anomaly Detection/Notification system using Machine Learning and Erlang
- Detected anomalous connection events using Isolation Forest and Logistic Regression algorithms
- Presented analysis of connection events using Pandas, Seaborn and Matplotlib
- Built a REST API to initialize thousands of IoT Devices on Xaptum's Network using rebar3

Altamont Company, Thomasboro, IL — *Machine Learning Intern*

Summer 2018, Summer 2019, Summer 2020

- Contributed to the development of a static site generator using Python, Flask and Docker
- Trained an ensemble of Deep Learning Networks to map 10,000+ product images to their corresponding part numbers

Select Personal Projects

Jetson Nano Autonomous Vehicle (ROS, Python, PyTorch)

FPGA based arcade-style game (SystemVerilog)

x86 Linux Based Operating System (C)