Jackson L. Crandell

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Education

Georgia Institute of Technology | Atlanta, GA *August 2022 – Present*
Master of Science in Robotics Expected Graduation: May 2024

Georgia Institute of Technology | Atlanta, GA *August 2018 – May 2022*
Bachelor of Science in Electrical Engineering GPA: 3.95

Skills

Programming: Java, C++, Python (Pytorch, Pandas, Numpy, OpenCV, Open3d), MATLAB, CAD software, ROS, CUDA, AWS, Git
Instrumentation: 3D printing, Embedded Systems (Arduino, Rpi, Nvidia Jetson, etc.), Intel Realsense Cameras, Pixhawk

Experience

Amazon Robotics | North Reading, MA *January 2022 – July 2022*
Applied Scientist Intern

- Implemented a Deep Reinforcement Learning algorithm in Pytorch using Graph Attention Networks to solve the 3D bin packing problem to maximize volume efficiency inside arbitrary containers
- Used Nvidia Flex software to simulate deformable objects to improve packing efficiency of Amazon Fresh items

Amazon Robotics | North Reading, MA *January 2021 – July 2021*
Advanced Robotics Co-op

- Developed a CUDA-optimized C++ heuristic algorithm to solve the 3D bin packing problem
- Developed a physics simulator in Pybullet used to improve the heuristic algorithm by performing parameter optimization

Sandia National Laboratories | Albuquerque, NM *May 2020 – December 2020*
R/D Undergraduate Year-Round Intern

- Developed an autonomous drone research platform using robot operating system (ROS) and Gazebo (simulator)
- Implemented control and state estimation algorithms in C++ such as an LQR Controller and Kalman Filter on drones
- Utilized Deep Reinforcement Learning algorithms such as Deep Q Learning (DQN) to perform trajectory generation

JR Automation | Nashville, TN *May 2019 – August 2019*
Controls and Automation Engineering Intern

- Designed and wired electrical panels using AutoCAD Electrical
- Integrated FANUC industrial Robots, Cognex vision cameras, and Allen-Bradley PLCs to perform automation tasks
- Developed a Human-Machine Interface using C#

Projects

Autonomous Vehicle Research *Spring 2019*
***Team Member* | Georgia Tech – Lorraine, France**

- Used OpenCV methods such as Color Segmentation and Canny Edge Detection to perform lane detection
- Implemented Model Predictive Control (MPC) in Python as a controller for the car

Relevant Coursework

Mobile Autonomous Robotics: Utilized the Robot Operating System (ROS) and C++ to implement various algorithms such A* Graph Search for path planning and Particle Filters and FastSLAM for localization.

Activities & Honors

Alpha Tau Omega Leadership Fraternity *August 2018 – May 2022*
Eagle Scout *Summer 2016*
Executive Chair on Student Advisory Board *August 2021- May 2022*