Cell: (865) 804-2086

Cody Houff

Email: codysoccerman27@gmail.com

GitHub || Website || LinkedIn

EDUCATION

Georgia Institute of Technology 2021 - 2023
M.S. Robotics concentration in AI, Computer Vision, Controls
GPA: 3.83/4.00

Tennessee Technological University 2015 - 2019
B.S. Mechanical Engineering concentration in Mechatronics
GPA: 3.95/4.00

EXPERIENCE

Lead Robotics Engineer - Symbotic Automation 2023 - Current
- Responsible for management of 15+ personal and site operations consisting of hundreds of robotic and electrical systems
- Under my guidance our site achieved final acceptance (milestone rates and availability) faster than any other site
- Grew our site up from 1,000 to 100,000 cases per day in a few months
- Created custom python and SQL scripts, to automatically pull and analyze site data from large databases
- Used PLC, software, and electrical tools to repair and debug robotic and electrical systems

Graduate Research Assistant - Robotics Lab 2022 - 2023
- Worked as a paid research assistant where I apply machine learning to robotics
- Led projects, designed and trained models, implemented interpretability tools, collected and curated video datasets, and designed data capture hardware and protocol
- Led a lab reading group focusing on transformers, RL, and current robotics papers

Project Lead Robotics Engineer - E.G.O. Products Summer 2022
- Programmed AGV to store and deliver 500 spools to 4 lines with robust error handling
- Trained 30 workers and 4 engineers to interact with my custom user interface and the robot
- Manager of robotics line, added a buffer to the line which alleviated a large bottle neck

Project Lead Engineer - Johnson Controls 2020 - 2021
- Designed a sprinkler with a new custom wrench-able cap design and wall bracket
- Worked on a material change for 3 different sprinklers with an annual volume of 2 million units
- Designed and tested sprinklers that are compliant with NFPA, UL, and FM

Mechanical Engineer - Protomet Manufacturing Summer 2018
- Designed and manufactured a universal speaker mount that has been sold to companies and designed other products

Engineer - Oak Ridge National Laboratory Summer 2016
- Worked with fire modeling software (FDS) to discover the optimal building safety design
- Co-authored fire protection engineering assessment (FPEA) of multiple facilities using NFPA 13, NFPA 25 codes

PUBLICATIONS

ForceSight: Multi-Task Text-Guided Mobile Manipulation with Visual-Force Goals - Link ICRA 2024
- Proposes visual location and force goals for mobile manipulation, enabling a variety of robotic tasks

Visual Contact Pressure Estimation for Grippers in the Wild - Link IROS 2023
- With an image as input, our model achieves SOTA contact pressure and force/torques estimations for robot grippers

PROJECTS

Learning Robotic Tasks from Video Demonstration 2022
- Programmed a robot that, in a simulated robot environment, learns tasks using only video data with a transformer

SKILLS

Programming: Python, C++, MATLAB, PyTorch, TensorFlow, Git, Linux, ROS, Computer Vision, Machine Learning
Engineering: Solidworks, CAD, Creo, ANSYS, LabVIEW, Arduino, Robotics || **Machining:** Mills, Lathes, CNC