Cell: (865) 804-2086 **Cody Houff** Email: codysoccerman27@gmail.com [GitHub](https://github.com/codyhouff) || [Website](https://codyhouff.github.io/) || [LinkedIn](https://www.linkedin.com/in/cody-houff/)

# 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](https://force-sight.github.io/) 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](https://arxiv.org/pdf/2303.07344.pdf) 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