

Cell: (865) 804-2086  
Home: (865) 426-7569

**Cody Houff**  
[GitHub](#) || [Website](#) || [LinkedIn](#)

Email: [chouff3@gatech.edu](mailto:chouff3@gatech.edu)

## EDUCATION

<b>Georgia Institute of Technology</b> <i>M.S. Robotics concentration in AI, Computer Vision, Controls</i> GPA: 3.83/4.00	Atlanta, GA 2021 - 2023
<b>Tennessee Technological University</b> <i>B.S. Mechanical Engineering concentration in Mechatronics</i> GPA: 3.95/4.00	Cookeville, TN 2015 - 2019

## EXPERIENCE

<b>Graduate Research Assistant - Robotics Lab</b> • Currently work 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	2022 - Current
<b>Project Lead Robotics Engineer - E.G.O. Products</b> • 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	Summer 2022
<b>Project Lead Engineer - Johnson Controls</b> • 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	2020 - 2021
<b>Mechanical Engineer - Protomet Manufacturing</b> • Designed and manufactured a universal speaker mount that has been sold to companies and designed other products	Summer 2018
<b>Engineer - Oak Ridge National Laboratory</b> • 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	Summer 2016

## PUBLICATIONS

<i>ForceSight: Multi-Task Text-Guided Mobile Manipulation with Visual-Force Goals</i> - <a href="#">Link</a> • Proposes visual location and force goals for mobile manipulation, enabling a variety of robotic tasks	CoRL 2023 (Pending)
<i>Visual Contact Pressure Estimation for Grippers in the Wild</i> - <a href="#">Link</a> • With an image as input, our model achieves SOTA contact pressure and force/torques estimations for robot grippers	IROS 2023 (Accepted)

## PROJECTS

<b>Learning Robotic Tasks from Video Demonstration</b> • Designed a robotic system to learn control policies using only video data in a simulated robot env with a transformer	2022
<b>Combination and Benchmark of RL Models</b> • Created a custom RL agent and benchmarked the top RL algorithms using OpenAI Gym	2022
<b>NLP Sentiment Analysis</b> • Created and trained an NLP model using a custom test set of tweets & reddit posts to evaluate sentiment on a topic	2022

## SKILLS

**Programming:** Python, C++, MATLAB, Computer Vision, Machine Learning, Git || **Design:** Solidworks, CAD, Creo  
**Machining:** Mills, Lathes, CNC Machines || **Other:** ROS, LabVIEW, Linux, ANSYS