Jeremiah M. Coholich

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Objective Statement: New CS Masters graduate looking for an R&D position in machine learning or robotics. I am up-to-date on current machine learning literature and have three years of experience in academia implementing state-of-the-art deep learning algorithms, especially in deep reinforcement learning.

EDUCATION

MS in Computer Science, Georgia Institute of Technology — Expected December 2022
Concentration: Computational Perception/Robotics
Capstone Project: Learning High-Value Footstep Placements for Quadruped Robots
GPA: 3.88 / 4.0

BS in Mechanical Engineering, The University of Texas at Austin, Highest Honors — 2019
GPA: 3.98 / 4.0

SKILLS

Languages	Python, MATLAB, Shell script
Frameworks	PyTorch, TensorFlow, NumPy
Tools	Docker, Slurm, LaTeX, Anaconda, Git, Linux, Matplotlib, Weights & Biases

RESEARCH EXPERIENCE

Graduate Researcher, Robot Perception and Learning Lab — June 2020 - Present

- Develop and implement novel learning-based planning and control algorithms for quadruped robots in simulation
- Reproduce results from academic papers in the field of reinforcement learning (RL) and robotics
- Create robot environments in NVIDIA IsaacGym and PyBullet simulation with procedurally-generated terrain
- Implement pipeline for reproducible training of RL policies, multi-GPU policy evaluation, and data collection
- Derive and implement vectorized analytical inverse kinematics for quadruped robot

Graduate Researcher, Laboratory for Intelligent Decision and Autonomous Robots — August 2019 - May 2020

- Studied nonlinear optimization of biped walking gaits on Cassie robot from Agility Robotics
- Wrote hybrid trajectory optimization program for five-link walker on soft terrain using MATLAB, FROST, IPOPT, and Wolfram Mathematica

Undergraduate Research Assistant, Human Centered Robotics Lab — February 2018 - May 2019

- Implemented a model-based, multi-input controller with a disturbance observer and discrete-time filters for an augmentation exoskeleton under the mentorship of a PhD student
- Modeled a 3-axis robotic joint in order to aid in placement of actuators and prevent issues with gimbal lock

AWARDS

- National Defense Science and Engineering Graduate (NDSEG) Fellowship, 2020
- NASA Space Technology Graduate Research Opportunities (NSTGRO) Fellowship, 2020 (declined)
- Georgia Tech President's Fellowship, 2019
- George W. Bean Endowed Presidential Scholarship, 2016 - 2019

INDUSTRY EXPERIENCE

Associate Mechanical Engineer, SpaceX — Summer 2019

Mechanical Engineering Intern, Harmonic Bionics — Summer 2018

Mechanical Engineering Co-op, NASA Jet Propulsion Laboratory (JPL) — May 2017 - December 2017