

# Jeremiah M. Coholich

jmcoholich@gmail.com ♦ www.jeremiahcoholich.com

## EDUCATION

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**PhD in Robotics**, Georgia Institute of Technology Expected 2025  
Adviser: Dr. Zsolt Kira

**MS in Computer Science**, Georgia Institute of Technology December 2022  
Concentration: Computational Perception/Robotics  
Capstone Project: Learning High-Value Footstep Placements for Quadruped Robots  
GPA: 3.92 / 4.0

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

## SKILLS

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

## RESEARCH EXPERIENCE

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**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

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- 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

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**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