Joshua Citron

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EDUCATION

Stanford University

M.S. in Computer Science with focus on AI *2026*

B.S. in Mechanical Engineering with focus on Controls *2025*

Relevant Coursework: Probability and Statistics for Computer Scientists, Machine Learning, Robot Autonomy, Decision Making Under Uncertainty, Dynamics (mechanics), Machine Learning, Principles of Robot Autonomy I

Relevant Projects: ML Model Calibration, RL using Advantage Actor-Critic, Partial Autonomy Stack for Robot

ENGINEERING EXPERIENCE

Robotics and Automation Intern *June 2024 to December 2024*

Alexion (division of AstraZeneca, through Magnit) *New Haven, CT*

- Validated robotic dispenser technology through experimentation and testing and identified machine limits
- Produced over 30 page document documenting the state of Artificial Intelligence and how it can be applied to inform colleagues
- Consulted on mobile robot deployment by utilizing robotics knowledge in decision making

Masters Researcher *June 2023 to Present*

Biomimetics and Dexterous Manipulation Laboratory *Stanford University*

- Investigated intelligent robotic movement through cluttered environments with tactile sensors and published two works (paper accepted for ICRA 2024, abstract accepted for ICRA@40)
- Deployed custom movement algorithm on robotic arm using Robot Operating System (ROS) architecture in Python to make movement decisions based on tactile sensor perception
- Currently programming on top of MuJoCo physics simulator to build multimodal learning from demonstration (AI) w/ diffusion policy for pathing and object retraction

Mechanical Team *January 2021 to June 2021*

Stanford Solar Car Project *Stanford University*

- Developed safety release mechanism for solar car bubble-hatch by designing a compact steel cable tensioner in CAD, iterated with rapid prototyping using 3D printing for solar car
- Validated performance of tensioner with FEA to ensure proper performance under load and appropriate factor of safety

Avionics *September 2021 to December 2022*

Stanford Student Space Initiative *Stanford University*

- Created ground station for rockets to communicate during flight using Altium, implementing schematics for power over ethernet circuit for custom electronics (PCB)

PUBLICATIONS

- Tactile-Informed Action Primitives Mitigate Jamming in Dense Clutter
- Leveraging Non-Prehensile Tactile Data for Object Retraction in Constrained Clutter Using Imitation Learning

SKILLS

- MuJoCo, C++, C, Python, VMWare ROS / ROS2.0, Git, Linux, Matlab (Libraries: Pytorch and dependencies)
- Programming concepts: Multithreading, multiprocessing, operating systems, scheduling, OO programming
- Altium, CAD software (OnShape, Fusion 360)