

Bishop Jackson

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Education

Massachusetts Institute of Technology (MIT)

Expected May 2027

Candidate for B.S. in Mechanical Engineering, Concentration in Controls, Instrumentation, and Robotics

NEET Autonomous Machines | Relevant Coursework: Introduction to Robotics (2.12), Product Engineering, Design & Manufacturing II (Mass Manufacturing), Dynamics & Controls, Electronics for Mechanical Systems, Autonomous Machines, Robots in Human Ecology (Harvard)

Robotics & AI Research

MIT FutureTech, MIT Computer Science and Artificial Intelligence Laboratory (CSAIL)

Summer 2026

Undergraduate Researcher

- MolmoAct2 VLA scaling and evaluation: Built an end-to-end Franka manipulation research pipeline in MolmoSpaces/MuJoCo with LeRobot and MolmoAct2 VLA policies; designed custom peg-in-hole tasks, generated 946/946 successful expert demonstrations, fine-tuned with LoRA, and evaluated 12 checkpoints across 240 rollouts to quantify scaling with data volume and task precision.
- RoboCurve Bounty benchmark design: Designed proposed robotics benchmarks from O*NET occupation and task data, converting real job activities into repeatable, hardware-feasible manipulation evaluations with measurable success criteria for robot arms and humanoids.

Engineering & Consulting Experience

Robotics and AI Institute (formerly Boston Dynamics AI Institute)

Summer 2025

External Engagement Team Intern

- Supported field deployment, operation, and electromechanical debugging of Boston Dynamics' Spot robot in a high-traffic public demo environment, enabling 10,000+ hands-on user interactions.
- Maintained and troubleshooted more than \$1M of advanced robotics equipment; translated recurring field issues and user feedback into recommendations for engineers to improve reliability, recovery workflows, and human-robot interaction.

MIT Climate and Sustainability Consortium | Undergraduate Researcher

Jan 2024 - Aug 2024

- Conducted engineering analysis of hydrogen/LOHC and direct-air-capture systems, then advised an industry partner on scalable concepts to co-produce beverage-grade CO2 and energy from direct air capture.

Selected Engineering & Robotics Projects

NEET Autonomous Machines | Autonomous Driving Competition Winner

- Built and tested self-driving vehicle autonomy using convolutional neural networks (CNNs) for visual perception and real-time sensing/decision-making; team won the NEET autonomous-driving competition.

MIT Introduction to Robotics (2.12) | Competition Winner

- Designed and built the mobile-robot platform for a mock home/kitchen challenge; owned a four-bar lift for cooking-tray retrieval and integrated autonomous navigation around simulated children. Coordinated with the robot-arm subteam to win the course competition.

MIT Design & Manufacturing II (2.008) | Injection-Molded Yo-Yo

- Designed and manufactured an injection-molded yo-yo for repeatable production; machined molds and tooling, ran injection molding, and iterated dimensions and assembly using DFM and CAD.

Harvard University | Robots in Human Ecology: An Anthropology of Robots

- Designed and ran "When Life Gives You Lemons," an interactive human-robot interaction project with Boston Dynamics Spot in Cambridge Common to study public approach behavior, perceived safety, and social responses to embodied robots.

NASA Lunabotics Competition | Build Team

- Designed and manufactured a rover chassis for traversing and manipulating loose lunar-regolith simulant; integrated mechanical hardware with electrical and autonomy subsystems.

MIT Design & Manufacturing Competition (2.007)

- Designed and built two competition robots from concept to SolidWorks CAD to machined/3D-printed hardware; iterated mechanisms using torque, beam-bending, and gear analysis.

Technical Skills

Robot Learning	Simulation / Evals	Programming / Compute	Mechanical / Build
VLA models (MolmoAct2)	MuJoCo, MolmoSpaces	Python, C++, C, MATLAB	SolidWorks, machining
Imitation learning, LoRA	LeRobot, HDF5, Rerun	Linux, Slurm/HPC, PyTorch	injection molding, 3D printing
CNNs, manipulation	benchmark/task design	data/eval pipelines	Franka, Spot, controls, sensors

Jack Kent Cooke Foundation College Scholar | Competitive four-year scholarship for academic excellence, leadership, and service (2023-present)