# ABHIJIT KALURI (HE/HIM)

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## EDUCATION

**NORTHEASTERN UNIVERSITY, BOSTON, MA, USA** ***2025***

Master Of Science in Robotics, Mechatronics And Automation Engineering

**Coursework:** Mobile Robotics, Control Systems, Computer Vision, Legged Robotics, Reinforcement Learning, Natural Language Processing, Assistive Robotics, Robot Mechanics And Control

**CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY, HYDERABAD, INDIA** ***2023***

Bachelor of Engineering in Mechanical Engineering

## SKILLS

**Languages:** Python, C++, C

**Simulation Software & Libraries:** MATLAB, MUJOCO, MYOSUITE, PyTorch, Gazebo, OpenCV, Drake, SolidWorks, Blender, Eiger 3D, Unreal Engine, Unreal Meta-Human

**Technical Skills:** Deep Reinforcement learning, Machine Learning, Docker, Bipedal Robotics, Aerial Robots, Control Systems, Computer Vision, Photogrammetry, Photorealistic Simulations, Mocap, Elmo Studio, TwinCAT

**Operating Systems And Middleware:** Linux, ROS, Windows, macOS

## EXPERIENCE

**GRADUATE STUDENT RESEARCHER** ***NOVEMBER 2023 - PRESENT***

**Silicon Synapse Lab | Boston, Massachusetts**

- Leveraged Markforged to 3D print carbon fiber subassemblies with embedded parts thereby reducing the total number of individual components in the electromechanical assembly of HARPY V2 (thruster assisted Bipedal robot) & M4 multimodal morphobot.[Harpy][M4]
- Devised and executed an assembly plan for 6 critical joints in half the projected time frame, advancing the project timeline by 1.5 months. Additionally, identified and rectified a fault in two sagittal hip actuators, achieving cost savings of over $700 and 110 hours in reprint time.
- Led the redesign of thruster and electronics mounts, to enable quick swapping of battery and housing of more electronics while establishing a communication pipeline for seamless data exchange between STM32, VectorNav IMU, and ESP32, optimizing integration and functionality.
- Utilized MATLAB & Simulink to develop firmware, enabling initial hardware-in-the-loop testing for steady trotting and accurate 3D foot placement. Concurrently conducted extensive joEMC Spa1.38 Tm0 G[(a)-01 0 0 2.88 Tm0 0 1JETQ0.000009 2 0 612 792 reW*nBTF2 10 Tf1 0 GF