Keivalya Pandya

Boston, MA | (617) 935-8558 | keivalyapandya@gmail.com | linkedin/keivalya

Education

Northeastern University   **Dec 2026**
Master of Science, Robotics (Computer Science)
- **GPA:** 4.0
- **Coursework:** Deep Learning, Mechanistic Interpretability, Reinforcement Learning, Mobile Robotics, Master's Research (Imitation Learning)

Birla Vishvakarma Mahavidyalaya   **Jun 2023**
Bachelor of Technology, Mechanical Engineering
- **Achievements:** Secured State Government Scholarship Tuition Fee Waiver
- **Coursework:** Mechatronics, Control Systems, Applied Electronics, CAD/CAM, Material Science, Deep Learning

Experience

Familiar Machines & Magic
Reinforcement Learning Intern   **Sep 2025 - Dec 2025**
- Designed, implemented, and tested learning algorithms using IsaacLab and sim2real techniques to enhance autonomous robotic behaviors, resulting in improved performance in real-world environments
- Worked with AI, Hardware, and Software teams to develop embedded firmware, unit tests, and simulation scripts, enhancing policy optimization and improving robot efficiency

Northeastern University
Robotics AI Researcher   **May 2025 - Aug 2025**
- Developed a human-in-the-loop reinforcement learning framework (RLHF) in NVIDIA Isaac Sim, using Python, which enabled the mobile robot to join ongoing human-robot interactions safely and improved overall interaction safety
- Proposed and implemented a pose generation pipeline that applied spatial heuristics (distance, area, etc) and MLP-based scoring, resulting in more accurate pose selection and faster planning for robot perception tasks

Research Apprentice   **Jan 2025 - Apr 2025**
- Deployed dexterous manipulation policies on Hello-Robot Stretch3, benchmarking Diffusion Policy, VQ-BeT, and ACT to enhance human-robot interaction capabilities
- Analyzed Vision-Language-Action models and implemented OpenVLA and RUM on Stretch3, contributing to more robust model deployment and testing processes
- Selected as one of 40 among 20,000+ students for fully funded research at Khoury College of Computer Science

BVM Engineering
Robotics Engineer, Full-Stack Developer   **Dec 2023 - Aug 2024**
- Created an E-commerce platform for institutional component sales and inventory management, improving transaction processing speed and stock accuracy with features like automated alerts and analytics
- Developed modular centralized control software with OPC-UA protocol for static stations and AMRs, optimizing unmanned assembly lines and eliminating human interference and delays

Undergraduate Research Assistant   **Jan 2021 - Dec 2021**
- Conducted MATLAB and Simulink simulations for a 14 DoF biped using inverted pendulum dynamics, enhancing the understanding of bipedal motion
- Analyzed energy consumption of walking gait in 12-DoF vs 14-DoF bipedal motion using contact-force modeling and rigid body dynamics, contributing to improved efficiency in bipedal robot design

Projects

Nemotron-VLA
- Open-source VLA model powered by NVIDIA's Nemotron and RADIO foundation models.
- Easy to setup, collect data, train, infere, and benchmark against other state-of-the-art models.

mini-VLA
- Built an end-to-end Vision-Language-Action policy that learns instruction-conditioned robot manipulation from demonstrations using diffusion-based action generation.
- Integrated vision, language, and proprioceptive encoders into a lightweight (~150 LOC core), modular framework enabling fast iteration and research prototyping in simulation.

RoboSpace.app   **Jun 2025**
- Simulate and train any robot simply by dragging and dropping its XML/URDF model onto the browser (no installation required).
- Gained 1000+ unique users and acquired 200+ registered users within 36 hours of launching the app.

Unitree G1 – Dancing/Running/Walking Simulation   **Apr 2025**
- Unitree MuJoCo simulation using Unitree SDK2, and integrated Python control program for sim2real deployment.
- Used imitation learning for simulating walking and running patterns in different terrains, and simulated influence of external force vectors on the body.

Imitation Learning Robot Arm Manipulation using BC   **Nov 2024**
- Developed 3-phase SAC for long-horizon, continuous-action MuJoCo environment for 9-DoF Franka.
- Robot learns cooking-related tasks, trained on human demonstrations using Behavior Cloning (BC).

Saksham – Prosthetic limb with remote sensors
- IoT-enabled data and performance monitoring, built with tactile sensors for sense of touch, dedicated web-app and versatile grip.
- Patent-granted technology (design and utility) funded by Government of India.

Skills

- **Skills**: Python, C++, ROS2, Pytorch, Tensorflow, OpenCV, VLA, Reinforcement Learning, Perception, Deep Learning, Machine Learning, MuJoCo, SLAM, Imitation Learning, Gazebo, Nvidia Isaac Sim, MATLAB, Simulink, Docker, FastAPI, VLMs

Patent

- Pandya K. **IN Patent** 356336-001/125869. AI-based Bio-electro-mechanical Prosthetic Limb.