

Rohan Panicker

(206) 371-5936 | github.com/RNOH | [linkedin.com/in/rohpan](https://www.linkedin.com/in/rohpan) | rohanpan27@gmail.com | Seattle, WA, USA

EDUCATION

University Of Washington, Seattle	September 2023 - June 2025
- Master of Science - Mechanical Engineering, concentration in Robotics and Artificial Intelligence	GPA : 3.79
Maharashtra Institute of Technology, Pune	July 2017 - July 2021
- Bachelor of Technology - Mechanical Engineering, concentration in Mechatronics	CGPA : 9.30
Coursework: Deep Learning, Reinforcement Learning, Linear Multivariable Control, Data Structures & Algorithms, Parallel Computing	
Awards: Silver Medalist, Dean's Honor List, 3rd rank in Asia in prototype design round at SpaceX Hyperloop Pod Competition.	

EXPERIENCE

Amazon Robotics	Robotics Software Intern	September 2024 - March 2025
- Achieved a 65% task completion rate by integrating Vision-Language Models into motion and task planning for mobile robots. - Developed a robot-agnostic software wrapper using AWS for multi-robot systems, accepted at Amazon Robotics Conference 2025. - Trained a YOLOv11n for package detection on fulfillment center floors, improving mobile manipulator picking accuracy by 43%. - Presented technical work and its business impact to 2+ internal teams, demonstrating strong ownership and communication. - Collaborated with engineers and scientists to advance teleoperation, manipulation and autonomous navigation projects.		
Global Health Labs	Computer Engineering Intern	June 2024 - September 2024
- Developed an edge detection algorithm for COVID test-kit reader using Gaussian convolution kernels to isolate regions of interest. - Mitigated lighting problems in diagnostic test windows via covariance intersection of color channels improving accuracy by 73%. - Contributed to the selection and design of the resource-constrained camera, reducing product cost by 91.4%.		
Robot Learning Lab	Research Assistant	September 2023 - June 2024
- Evaluated NoSlip, Slip, and Learned dynamics models on real and simulated off-road datasets, showing that simpler models degrade faster under aggressive driving conditions, leading to acceptance at ICRA 2024 Workshop. arXiv link - Integrated a Model Predictive Path Integral (MPPI) planner, dynamic gait controller, and data collection pipeline on a Unitree A1 quadruped, enabling state estimation and trajectory optimization while accelerating research in off-road autonomy. Code - Conducted performance benchmarking of self supervised learning models on a Jetson AGX Orin for mobile robot navigation. Code		
TATA Advanced Systems	Embedded Software Engineer	June 2022 - July 2023
- Deployed a YOLOv8 for object detection and tracking on a gimbal system, enhancing target acquisition in dynamic environments. - Improved tracking accuracy by 13% by mitigating object occlusion using a Bayesian filter and PID controller. - Achieved an 80% improvement in gimbal stabilization using Model Predictive Control (MPC) and boosted tracking robustness via sensor fusion of optical flow and Inertial Measurement Unit (IMU) data.		
Defence Research & Development Organization	Control Systems Engineer	July 2021 - February 2022
Designed an impedance controller for a hip exoskeleton using torque control to enable compliant joint response during human-robot interaction, and developed an ankle exoskeleton that reduced metabolic cost by 17%.		

PROJECTS

Time series prediction of quadruped locomotion Poster	January 2024 - March 2024
Trained an autoregressive Long Short-Term Memory (LSTM) network to forecast joint torques from prior values across gaits; achieved 0.09 Nm mean square error (MSE).	
Quad to Biped: Teaching a Quadruped to perform a handstand using reinforcement learning Report	March 2024 - May 2024
- Designed dense and sparse reward functions improving orientation stability and reducing X-Y drift by over 60% in simulation. - Trained a quadruped to perform handstands using Proximal Policy Optimization (PPO) in 5000 iterations and 1024 parallel agents.	
3D Mapping for Indoor Navigation System Report	December 2021 - February 2022
Improved 3D point cloud mapping speed by 25% by integrating Normal Distributions Transform (NDT) and Iterative Closest Point (ICP) algorithms with Extended Kalman Filters (EKF) for SLAM.	

SKILLS

Programming Languages and Tools:	Python, C, C++, MATLAB, CUDA, Rust, Git, Docker, Kubernetes, Protobuf, CMake, AWS
Machine Learning Concepts:	PCA, Shapley Values, LLMs, CVAE, Q-Learning, MDP, Clustering, Regression, GNNs
Libraries and Frameworks:	ROS, ROS2, NumPy, OpenCV, OpenAI Gym, Pytorch, Isaac Sim, MuJoCo, JAX, TensorRT