

EDUCATION

Georgia Institute of Technology (Georgia Tech)	Atlanta, Georgia
Masters in Robotics (<i>Artificial Intelligence, Linear Controls, Mobile Robot Perception and Navigation</i>)	May 2024
Graduate Teaching Assistant : <i>Creative Decisions and Design (Intro Robotics Lab Course)</i>	
National Institute of Technology Karnataka (NITK), Surathkal	Surathkal, India
Bachelor of Technology in Mechanical Engineering, <i>CGPA: 9.05/10</i>	May 2019
Coursework: <i>Robot Mechanics and Control, Intelligent Systems, Mechatronic Systems, Sensors and Actuators</i>	

SKILLS

Application Softwares:	ROS, RViz, Gazebo, OpenCV, Simulink, MSC Adams, V-REP, Labview, Fusion 360
Programming:	Python, C, C++, Visual Basic, Mathematica

PUBLICATIONS

Bhavik Parmar, **Prajwal B Bharadwaj**, “Design, Implementation of Gaits and Control of a Quadruped Robot”, 8th International Engineering Symposium, Kumamoto University, Japan, 2019 · [\[Publication\]](#)

EXPERIENCE

Caterpillar India	Bangalore, India
Associate Engineer, Power Systems and Controls Division	July 2019 - June 2022
<ul style="list-style-type: none">Delivered neural network-based performance optimization projects and tuned controls maps for turbochargersImproved test cell operational efficiency (TEEP) by 24.5% through remote monitoring and data analysisTranslated Simulink-based turbocharger controls tool to Python-based software eliminating license costs	
Mechanical Chef (Cooking Robot Startup)	Bangalore, India
Mechanical Design and Robotics Intern	May 2019 - June 2019
<ul style="list-style-type: none">Designed a novel robotic system for volume-based delivery of cooking ingredients, which reduced the number of required actuators to half the original count and slashed production costs [Video]	
Indian Institute of Technology (IIT), Bombay	Mumbai, India
Research Intern, Suman Mashruwala Advanced Micro-Engineering Lab	May 2018 - July 2018
<ul style="list-style-type: none">Developed a feedback-controlled mechatronic system running on Simulink-Tiva real-time interface, for precision control of z-stage motion in a Microstereolithography 3D printer [Video]Achieved microscopic displacement resolution of 10µm and validated using opto-electronic sensors [Image]	
Indian Institute of Space Science and Technology (IIST)	Thiruvananthapuram, India
Research Intern, IIST Summer Internship Programme	June 2017 to July 2017
<ul style="list-style-type: none">Designed static and dynamic leg trajectories, simulated them using Fourier techniques for computational advantage in cyclic operation, and implemented reference tracking using five-bar inverse kinematicsAchieved stable walking, turning and trotting gaits using MATLAB-Adams Co-simulation [Video]	

PROJECTS

Object-Tracking and Waypoint Following Robot, Mobile Robotics Lab, Georgia Tech	[Video]
<ul style="list-style-type: none">Developed scripts for LiDAR and camera sensor fusion. Implemented object-tracking PID control on Turtlebot3Developed algorithm for state machine transition between goto-goal and avoid-obstacle behaviour	
Smart City, Robot Localization Team - Sensors and Actuators Lab, NITK Surathkal	
<ul style="list-style-type: none">Developed an algorithm incorporating the use of ArUco markers to identify and locate moving robots as well as stationary POIs on the smart city grid to aid path-planning of robotsLeveraged localization data from USB Webcam as feedback for providing more accurate positions to bots	
Quadruped robot, Mechanical Team Lead, ABU Robocon 2019	
[Video] <ul style="list-style-type: none">Created a framework for automatically generating leg trajectories on a quadruped robot based on pose values obtained from IMU and proximity sensors. Implemented stair climbing gait and tested it for 35% gradient	
Snake Robot, Winning Team: e-Yantra National Robotics Competition(2018), IIT Bombay	
[Video] <ul style="list-style-type: none">Developed novel algorithms for rapid pitching and fall recovery of snake robot, simulated them alongside caterpillar, side-winding, serpentine gaits in V-REP, and implemented in Arduino code	

MERITS AND EXTRA-CURRICULARS

- First place among 5932 participating teams at the e-Yantra National Robotics Competition, IIT Bombay
- Volunteer at CoachEd - Mentored two underprivileged undergrads to secure jobs in robotics and automation firms