Priya Deshmukh

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Location: San Jose, CA, USA

Professional Summary

Detail-oriented Robotics Engineer with 4+ years of experience in designing, programming, and deploying robotic systems across warehouse automation and mobile platforms. Proficient in C++, Python, ROS, and OpenCV with strong capabilities in navigation, perception, and SLAM. Experienced in both simulation and hardware testing. Passionate about developing intelligent, robust, and scalable robotic solutions.

Technical Skills

Languages: C++, Python, MATLAB

Frameworks/Libraries: ROS (ROS1, ROS2), OpenCV, PCL, Eigen

Tools: Gazebo, RViz, MoveIt!, MATLAB/Simulink, Git, Docker

Hardware: LiDAR (Velodyne, RPLiDAR), IMU, Kinect, Jetson Nano/Xavier, Arduino, Raspberry Pi

Algorithms: SLAM (GMapping, Cartographer), Path Planning (Dijkstra, A*, RRT), Kalman Filter, PID

CAD/Design: SolidWorks, AutoCAD, 3D printing

Cloud/CI: AWS RoboMaker, GitHub Actions

Professional Experience

Robotics Engineer - AutonoBotics Inc., San Jose, CA

July 2021 - Present

- Developed and deployed real-time navigation algorithms for an indoor delivery robot using ROS and AMCL-based localization.
- Integrated LiDAR, camera, and IMU data using Extended Kalman Filter for accurate localization and mapping.
- Built simulation environments in Gazebo for performance testing and tuning of motion planning stacks.
- Reduced navigation error by 18% through optimization of sensor fusion and adaptive path planning.
- Collaborated with mechanical and electrical teams for full-stack robot prototyping.

Robotics Software Developer - RoboWare Solutions, San Diego, CA

June 2019 - June 2021

- Programmed object detection and tracking pipeline using YOLOv5 and OpenCV for pick-and-place robotic arms.
- Implemented and tuned PID and feedforward controllers for robotic arm joints.
- Contributed to ROS-based robotic middleware for warehouse robots with real-time diagnostics and recovery behavior.
- Deployed code to NVIDIA Jetson platform with Docker containers for modular updates.

Education

M.S. in Robotics Engineering - University of Southern California, Los Angeles, CA

2017 - 2019

Thesis: -Vision-based Localization and Navigation for Indoor Mobile Robots-

B.Tech in Electronics and Instrumentation - Pune Institute of Technology, India

2013 - 2017

Projects

Autonomous Drone Navigation System

Designed and tested autonomous flight system for indoor drone using SLAM and vision-based navigation.
Integrated ArUco marker tracking, depth estimation, and obstacle avoidance.

Self-Balancing Robot (Capstone Project)

Built a self-balancing two-wheeled robot using Arduino, MPU6050, and PID control.
Tuned control parameters manually and verified system stability in real-time.

Certifications

- ROS for Beginners - Udemy
- NVIDIA Jetson AI Specialist - NVIDIA Deep Learning Institute
- Python for Computer Vision - Coursera

Publications

- -Improved Indoor Localization using Sensor Fusion in ROS-, IEEE International Conference on Intelligent Robots, 2023

Languages

- English (Fluent)
- Hindi (Native)