

VIVEK D R

SUMMARY

Possess extensive hands-on experience in designing, developing, and implementing advanced robotic systems. Proficient in developing and coding robotics systems with ROS2, including custom motor libraries and path-planning algorithms. Skilled in Robot navigation, SLAM, EOAT design, and using tools like Moveit Studios, Tesseract, and robotic simulation software. Adept at optimizing robotic operations and leading successful projects.

EXPERIENCE

Robotics Software Engineer, 1/2023 - Current

ASIMOV - Kochi, India

- Developed humanoid robots using ROS2, including writing a motor library to integrate Dynamixel motors in wheel and joint modes.
- Implemented LLM-based speech recognition for real-world interaction and voice based control.
- Designed and coded a camera-based self-charging docking station with path planning.
- Enhanced SLAM navigation and localization for improved accuracy and positioning.

Robotics (Software Engineer), 6/2023 - 12/2023

HoloWorld - Mysuru, India

- Designed vision systems and path-planning algorithms for complex tasks on curved surfaces.
- Developed an End Effector Tooling (EOAT) for a UR10e robot.
- Taught robotics using ROS, Moveit Studios, and the Tesseract Algorithm.

Robotics Engineer, 12/2022 - 5/2023

Taikisha Technical Center - Delhi, India

- Coded AGV navigation algorithms and performed Inverse Kinematics calculations.
- Built and tested AGV prototypes, debugging programs to enhance performance.
- Integrated advanced SLAM navigation and localization strategies through research.
- Managed full project cycles, including budgets and subcontractor coordination.



CONTACT



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SKILLS

- **Robotics Frameworks:** ROS1, ROS2, ROS 1 & 2 Bridge, Micro ROS
- **Simulation & Visualization:** Gazebo, Rviz
- **Robotics Algorithms:** LLMs, SLAM, Path Planning, Localization, 2D/3D Mapping, Moveit, Tesseract
- **Programming Languages:** Python, C++, C
- **Computer Vision:** OpenCV, Industrial Reconstruction, TensorFlow
- **Operating Systems:** Linux
- **Hardware:** OAK-D Depth Camera, L515 Lidar, Realsense Depth Camera, Tracking Camera, Dynamixel Motors
- **Embedded Systems:** STM32, NVIDIA Jetson Nano, Raspberry Pi, Arduino
- **Design Software:** Fusion 360, SolidWorks, AutoCAD Inventor
- **URDF:** Unified Robot Description Format
- **Kinematics:** Robot Kinematics

Robotics Intern, 11/2021 - 02/2022

Future Robotics and Automation - Bengaluru, India

- Programmed EOAT for articulated robots and designed routines using Fanuc Roboguide and ABB Studio.
- Ensured robotics systems met quality and safety standards.
- Wrote software for object manipulation and collaborated on robotic simulation projects.

EDUCATION AND TRAINING

M.Tech, Robotics Engineering, 10/2022

M S Ramaiah University of Applied Sciences - Bengaluru

- 8.68 GPA
- **Dissertation:** Design and Development of Robotic Arm for Mobile Robot
- Completed coursework in Machine Learning, OpenCV, Embedded System and Lean Robotics

B.Tech, Mechanical Engineering, 06/2020

Christ University - Bengaluru

- 7.33 GPA
- **Dissertation:** Design and Development of Vacuum Robot system for Cleaning Application
- Minor in Design and Development of a Football kicking Robot
- CSA (Central Social Affair) Member
- Pollux Racing Member

CERTIFICATION

- Certified on ROS Tool, Mapping & Navigation conducted by RigBetel Labs at Taikisha India and gaining practical knowledge on Design & Development of URDF of a Differential Drive Robot, ROS Tools like Gazebo, RViz, Autonomous Navigation and Hardware implementation with TortoiseBot Pro Max.

ACHEIVEMENTS

- **KSDIC (Kerala Round Table Conference):** Showcased a cutting-edge humanoid robot.
- **SAEINDIA REEV Competition:** Competed with innovative solutions in the electric vehicle arena.
- **Nova Robotics RoboWar:** Demonstrated skills in robotics combat and strategy.
- **Engineer's Day Presentation:** Unveiled the "Weed Remover Machine," highlighting practical engineering solutions.