

Dani Johnson

ROBOTICS AND AUTOMATION ENGINEER

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Professional summary

A robotic engineer proficient in programming languages such as Python and C++, experienced in working with sensors, actuators, and control systems, with a proven track record of delivering high-quality designs and completing complex projects. Committed to innovation and staying current with the latest technology, with the **goal** of becoming one of the best robotic engineer in the industry.

Projects

Autonomous Mobile Robot for Surveillance and Defense

- Developed autonomous mobile robot with **SLAM** and **obstacle avoidance** using **ROS**.
- Designed control architecture with PID controllers for precise navigation, tested in **Gazebo** simulator.
- Integrated **LiDAR** and **RGB-D cameras** for perception systems.

Pick and Place with ur5 cobot using Moveit C++ Interface

- Implemented **pick and place** simulation with **Moveit C++** for UR5 robotic arm.
- Developed realistic Gazebo environment for accurate simulation.
- Integrated **collision avoidance** in Moveit for safe operation

Multipurpose Robot Development and Path Planning Integration

- Designed components, solidworks models, wiring diagrams, and **C++** code.
- Utilized ROS and C++ for efficient control and integration with **sensor** systems.
- Implemented robust **path planning** for optimal navigation.

Industrial Helmet Detection Using YOLOv8 Model

- Utilized YOLOv8 for real-time helmet detection in complex environments.
- Trained neural network on custom dataset using Python and Pytorch

Internships/Experiences

Bosch Rexorth | PLC Programming

- Learned about industry-level automation
- Specializing in sensors, PLC, hydraulics, and pneumatics.
- Hands-on experiences with Bosch industrial equipment, hydraulic drivers, PLC circuit logic design, sensor applications, and pneumatic system creation.

Education

B.Tech in *Robotics and Automation*

Toc H Institute of Science & Technology
(KTU university)

CGPA - 7.5

2019-2023

Higher Secondary Education

SNDP HSS udayamperoor

(DHSE- Kerala)

Grade -86%

2016-2017

Experties

Robotic Simulation

- Gazebo(Ros1,Ros2)
- ABB Robot Studio
- Rviz
- Fanuc RoboGuide
- Moveit

Programming

- C ,C++
- Python
- java
- Matlab

Libraries

- OpenCV
- PyTorch
- Tensor flow
- CUDA
- NumPy

3D Modeling

- Fusion360
- Solidworks
- Blender

Automation

- PLC Programming
- Hydraulics and Pneumatic

Web Design

- CSS3
- HTML5
- Bootstrap
- JavaScript

Digital Design

- Figma
- AI Design
- Spark AR

Subject of Interest

- Mobile Robotics
- Humanoid Robotics
- Robotic simulation
- 3D modeling

Fanuc | Robot Programming

- Worked on industry robots.
- Learned RoboGuide Software which is an offline programming robot simulation software of fanuc industry
- Performed pick and place operation in different trajectory with Fanuc Roboguide software

Trizlabz | Robotics engineer intern

- Successfully contributed on the development of an industrial grade mobile robot designed and implemented a path planning algorithm for the robot optimizing its efficiency and usability.
- Acquired in-depth knowledge and hands on work with various sensors, Jetson nano, Lidar, RGB-D Camera, etc applying them in robotic projects.
- Created comprehensive circuit diagram and mechanical design .

Languages

- English
- Hindi
- Tamil
- Malayalam

Hobbies

- Reading
- Football
- Cycling
- Content Creation