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 TensorFlow.

Internships/Experiences

Bosch Rexroth | 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)
- Rviz
- Moveit
- ABB Robot Studio
- Fanuc RoboGuide

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 opertion 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,Jetsonnano,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