Aman Vyas

amanvyas055@gmail.com +91-7284935089 LinkedIn GitHub LeetCode

Profile

Expertise in computer vision and machine learning algorithms to develop cutting-edge solutions for real-world image and video analysis challenges, while contributing to the advancement of computer vision technology.

Education

B.Tech in Mechanical Engineering, 07/2019 – 05/2023
Sardar Vallabhbhai National Institute of Technology, Surat
8.58 CGPA

HSC (PCM, ENGLISH, COMPUTER SCIENCE), 05/2018 – 05/2019
G.K DHOLAKIYA SCHOOL(GSEB)
80.62%

SSC, *G.K DHOLAKIYA SCHOOL(GSEB)* 05/2016 – 05/2017
94.17%

Projects

Farmbot
A farming robot with automatic navigation, weed detection system, designed for navigating between crops, across farms and providing aid in multiple operations required by farmers, specific in automatic weed spraying system.

VehicleOS,
implementation of autonomous car using ROS,SLAM,deep neural network algorithms for obstacle detection
Development of 'CarOS,' A Raspberry Pi-based vehicle automation system, integrating computer vision and IoT technologies. Designed real-time object detection and lane tracking using OpenCV, enabling autonomous navigation. Implemented a user-friendly web interface for remote control and monitoring, enhancing user experience. Leveraged Python,cpp and ADAS framework to ensure seamless communication between onboard sensors and the central control hub.

Facial keypoints detection
Implemented facial keypoints detection using deep learning techniques, achieving accurate localization of key facial landmarks such as eye corners, nose tip, and mouth corners.

Obstacle Detection
This project is about detecting obstacles from highly sparse LiDAR point cloud and tracking multiple objects in real time.

Lane Detection
The project integrates real-time tracking mechanisms to ensure consistent and reliable lane detection over consecutive frames. By employing techniques such as Kalman filtering and weighted moving average, the system predicts and tracks the lane lines, providing smooth and continuous lane information.

L&T Techgium Competition, *Design and Development of AUutomated Crane Hook Tracking System*
Imported Designed crane model with Lidar,camera and IMU sensor in it , converted into URDF format to export it to ROS for automation. The real time tracking of objects done by obtaining frustrum and applying Pose Graph based SLAM approach for mapping of landmarks and used Kmeans algorithm for data clustering ,fusion done on Ros with pcl library ,made a prototype of this problem statement

Experience

SDE intern at HireTale, *ReactJS developer* 05/2022 – 07/2022 | Jaipur, India

- Build a Job-listing app with the help of reactJS,redux,framer motion,dynamic data representation, firebase SDK for data storage
- build a fully responsive Home page for company with HTML5,CSS,jquery

SDE intern at AMTDC,IITM, *Django developer* 05/2021 – 11/2021

- designed a full stack web API with Python,Django,HTML5,CSS,Javascript
- provided functionality of authentication , data storage migration from sqlite3 to MYSql and used GraphQL for Knowledge Graphs representation
- Used Normalization concepts for designing database.

Mentor: Dr. Venkatramthan sir,professor at IIT madras

MHI KITE TIP Intern at IIT,Madras, *Development of an industrial control system for 4 axis industrial robots* 11/2021 – 03/2022

- designed and developed 4DOF scara robot using Ros Gazebo simulator and rvizUI
- importing URDF of scara robot, published custom controller node on ros and published to gazebo

skills:ROS,Gazebo,Rviz,Matlab Mentor: Dr. Kathiresan S Sir, Retired Group Director, GTRE/DRDO

Skills

Automation
ROS-Gazebo,SLAM

OOP Language
JAVA,Python,cpp

web development
Html5,css,javascript,jquery

web framework
ReactJS,Django

Database Query Languages
MYsql,MongoDB,GraphQL

Achievements

L&T Techgium competition-2022
We have reached to final POC presentation round after clearing 3 stages – (concept and abstract shortlisting, technical presentation, briefing of prototype demonstration for funding (we got Rs.50000/- funds for building our prototype)

EXTRA-CURRICULAR ACTIVITIES

ALL INDIA INTERNIT SWIMMING COMPETITION 2023, *100 mt butterfly- gold medal 400 mt i.m.-gold medal 100 mt free stye-silver medal 50 mt butterfly-silver medal 100 mt backstroke-bronze medal*

Declaration

I hereby declare that the above written particulars are true to the best of my knowledge and beleif.

Aman Vyas