Kartik Soni

An aspiring enthusiast from the field of Mechatronics Engineering looking forward to spend his whole life playing with robots.

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SKILLS

`ROS/ROS2` `Python`
`Arduino/ESP32`
`Fusion360` `SLAM`
`OpenCV`

LANGUAGES

English
Full Professional Proficiency

Hindi
Full Professional Proficiency

Marathi
Full Professional Proficiency

Gujarati
Native or Bilingual Proficiency

German
Limited Working Proficiency

INTERESTS

Playing Guitar

Designing Robots

Working out

Debating

Listening Podcasts

EDUCATION

Primary/Secondary Education
St. John High School
2006 - 2017   *SSC: 90%*

Higher Secondary Education
Royal Junior College
2017 - 2019   *HSC:77%*

B.Tech Mechanical and Mechatronics
MIT School of Engineering
2019 - 2023   *CGPA(7th Sem): 8.1*

PROJECTS

Fully Autonomous Differential, Omnidirectional, Ackermann and Swerve Robots on ROS2
▢ Complete simulation and hardware deployment of multiple drive oriented robots for various case scenarios on ROS2

Fully Autonomous ROS based 6-seater E-shuttle
▢ Using ROS2 3d-SLAM to develop a robust, enclosed space autonomous vehicle to drive the guests within the university campus

Design and Development of Underactuated and Fully Actuated Robotic Dogs
▢ With an aim to develop a cheaper alternative to the Boston Dynamics Spot Robot, development of various design samples for the robot ready for deployment

Fully Autonomous Floor Cleaning Robot
▢ Mapping of the surroundings in real-time using SLAM and further intelligent path planning using Boustrophedon decomposition, thus enabling a fully autonomous cleaning robot using ROS

Autonomous Waypoint Following Drone Network
▢ Using Ardupilot and QGroundControl over the MAVROS to automate, simulate and prototype an autonomous MAV

EXPERIENCES

Coding Club India (10/2020 - 12/2020)
Understanding and implementation of various machine learning algorithms

Team Volta ROS2 Mentor (10/2019 - Present)
ROS2 Mentor and a core member for university's prestigious robotics club taking part into international competitions like Robocon.

TruSpectra India Pvt. Ltd. | Intelexa Technologies (02/2022 - 05/2022)
Internship based on ROS, ROS2 and Embedded Systems development for various Robotic applications like AMRs and manipulators.

Rigbetel Labs LLP (08/2022 - Present)
A full-stack ROS2 Developer, working for various company projects and other US-based clients for ROS2 based robot development

ACHIEVEMENTS

1. Fully functional first prototype of the autonomous drone accomplished, project funded completely under a startup.

2. An issue of a research paper for ROS based path planning and autonomous navigation for drones

3. Cleaning Robot performs successful mapping of challenging indoor areas.

4. Part of the MIT ADT's core team for Robocon nationals 2022

5. Finalist for TechnoXian 2022 Fastest Line following Robot Competition

6. Lead Developer of the university funded, ambitious project of Fully Autonomous E-shuttles