AKASHLEENA SARKAR

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EDUCATION

Birla Institute of Technology Mesra, Ranchi, India, Jul 2016 - Jul 2020
Bachelor of Engineering, Electrical and Electronics Engineering **Cumulative GPA- 7.94/10.0**
Bachelor's Thesis: Assisted Teleoperation of Robotic Arm for Remote Maintenance in Hazardous Environment Best Thesis in the EEE Dept

WORK EXPERIENCE

Project Engineer Aug 2021 - Aug 2022
NewSpace Research and Technologies Pvt Ltd *Bangalore, India*

- Developed decentralized path planning framework for UAVs (fixed wing and multicopters) from scratch.
- Scaled the system to operate on 1000km*1000km map size and 50m*50m grid size.
- Optimized A* using a heuristic and interfaced it to the Ground Control Station using Flask Server

RESEARCH EXPERIENCE

Assisted Teleoperation of Kinova Arm for Remote Maintenance in Hazardous Environment Feb 2020 - Jul 2020
Short Term Research Internship at Survey, Mechatronics and Measurement Group, CERN *Geneva, Switzerland*

- The objective of the research was to improve the efficiency of the semi-autonomous system which will be used for teleoperating the Kinova Arm for robotic interventions in hazardous environment at CERN.
- The efficiency of the semi-autonomous system was 75%. Mr. Mario D Castro

Exploiting Autonomy for Enhancing Remotely Guided Operation of Ground Vehicles May 2019 - Jun 2019
Summer Research Internship at Intelligent Vision and Automation Labs, Georgia Tech *Atlanta, USA*

- The objective of the research was how shared autonomy enhances teleoperation or remote teleguidance.
- The task performance of the mobile robot was tested for three cases- manual teleoperation, fully autonomous and semi-autonomous system by comparing the objective scores. Path Planning was done in Perception Space.
- A subjective scoring method was formulated in the form of a user-experience survey. Dr. Patricio Antonio Vela

PROJECTS

Automated navigation of a 4 wheeled robot May 2018 - Jul 2018

- Proposed a Mathematical approach and developed an algorithm for static obstacle avoidance. Validated the above algorithm by testing it on a 4 wheeled robot using ultrasonic sensors. The trajectory of the robot was PID tuned using Simulink model of the 4 wheeled robot. Prof. Subrat Kumar Swain

Pick and Place Harvester Robot Nov 2017 - Feb 2018
Built this Robot for E-yantra Robotics Competition organized by IIT Bombay Project Repo

SKILLS

C, C++, Python, MATLAB, Embedded C, ROS, OpenCV, TensorFlow, PyTorch, Git, GitHub, LaTeX, ArduPilot, PX4, Simulink

• **Teaching Experience:**Taught Courses Electronics and Introduction to Robotics to Robolution Club Freshers (Strength of 40 students)

• **Volunteering Experience :** Organized Robotics Exhibitions and Workshops in BIT Mesra for freshers. ART of Living Volunteer in Ranchi 2016 and 2019.