

Srinjay Sarkar

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EDUCATION

Vellore Institute of Technology (VIT), Chennai

Bachelor of Technology in Computer Science and Engineering (AI and Robotics)

Chennai, India

08/2023 – 07/2027

EXPERIENCE

Research Intern – Vision-Language-Action (VLA) Robotics

05/2026 – 07/2026

Indian Institute of Science (IISc), Bangalore

Bangalore, India

- Deployed and investigated OmniVLA, a pretrained Vision-Language-Action model, on a physical 6-wheel differential-drive rover; identified the goal-reaching “stopping problem” and designed five OmniVLA-native stopping solutions using predicted trajectory outputs.
- Designed a modular multi-robot navigation architecture for two autonomous rovers, combining OmniVLA for global direction with ORCA for local collision avoidance, with task scheduling, path planning, and swarm robotics considerations.
- Assembled, wired, and integrated a second rover; deployed ROS 2, OmniVLA, camera streaming, and Zenoh on Raspberry Pi and successfully tested dual-rover navigation with simultaneous collision avoidance.

Electronics & Hardware Intern

06/2026 – 07/2026

Fusionova Industries Pvt. Ltd.

Bangalore, India

- Studied UAV/drone system principles, architecture, major components, and applications, with a focus on hardware integration and power distribution.
- Designed a custom drone integration PCB from scratch in KiCad, interfacing the flight controller, ESCs, Jetson Orin Nano, GPS, ESP32, cameras, sensors, communication modules, and power system.
- Created schematics, assigned footprints, designed component placement and routing, implemented ground planes, performed ERC/DRC checks, and generated Gerber and drill files for fabrication.

Robotics Intern

08/2025 – 01/2026

Mafkin Robotics

Chennai, India

- Worked with ROS 2 and Gazebo for robotic system simulation and end-to-end robotics workflows.
- Performed underwater image enhancement using DeepSeaColor for improved visibility in low-light environments.
- Developed a YOLO-based pipeline for detecting structural cracks in ship hulls and prepared annotated datasets for model training.

Corporate Affairs and Funding Director

11/2025 – Present

Students for the Exploration and Development of Space (SEDS) India

National Role

- Led chapter expansion efforts by onboarding new SEDS chapters across multiple regions of India.
- Coordinated with student leaders, institutions, and industry partners to strengthen the SEDS network.

PROJECTS

Neuroimaging Robot Powered by Brain Foundation Models | BrainIAC, NVIDIA Jetson, MRI

Ongoing

- Developing an edge-AI neuroimaging system using the pretrained BrainIAC brain foundation model for MRI-based classification of Normal, Tumor, Alzheimer’s, Stroke, and MCI.

Robotic Arm Rover | ESP32-CAM, OpenCV, Python

02/2025

- Designed and developed an autonomous rover with a camera module and robotic arm for real-time object detection and trash collection, integrating computer vision with embedded motor control.

SAR Image Colorization for Remote Sensing | Python, Satellite Imaging, ML

09/2024

- Applied machine learning techniques to colorize grayscale SAR satellite images for improved visual interpretation and remote sensing analysis.

TECHNICAL SKILLS

Programming Languages: Python, C/C++, Java, Bash

Robotics & Embedded Systems: ROS 2, ESP32, Raspberry Pi, Arduino, Gazebo, Isaac Sim, Motor Drivers, Sensors, Linux, Git, SQL, Zenoh

AI / Machine Learning: Vision-Language-Action (VLA), OmniVLA, OpenCV, YOLO, CNNs, Image Processing

Hardware & PCB Design: KiCad, PCB Layout, Schematic Design, PCB Routing, ERC/DRC, Gerber Generation, UART, I²C, Power Distribution

Robotics Algorithms: ORCA, A*, RRT*, ACT (Action Chunking Transformer), Thompson Sampling, ϵ -Greedy