



Gampa Sai Sasivardhan
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4th Year
Bachelor of Technology (B.Tech.)
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EDUCATION

- **National Institute of Technology Warangal** 2023-Present
B.Tech in Electronic and Communication Engineering (Minor Degree) CGPA: 9.00
- **National Institute of Technology Warangal** 2022-Present
B.Tech in Chemical Engineering CGPA: 7.58
- **Narayana College** 2020 - 2022
Board of Intermediate Education, Telengana Percentage: 95.2%
- **Pallavi Model School** 2019 - 2020
Central Board of Secondary Education Percentage: 92.8%

EXPERIENCE

- **Mowito Robotics** Jun 2024 - Jul 2024
Project Intern Bengaluru , India
 - Developed an eccentricity checking machine, achieving 97% accuracy, involving precision engineering and ROS2 integration with STM32 using OpenCV.
 - Designed a robotic conveyor system, increasing automation efficiency by 40%, utilizing Fusion360 and STM32 integration.
- **Robotics Club NITW** Jan 2023 - Present
Secretary and Project Incharge Warangal , Telengana , India
 - Developed advanced robotic arms and AGVs, improving operational efficiency by 25%, using ROS2 and precision engineering techniques.
 - Led the team in eYantra and Robocon, showcasing innovative robotic solutions, focusing on autonomous navigation and object manipulation.

PERSONAL PROJECTS

- **Dynamic Live Location Tracking and Stop Request System for E-Carts** Nov 2024 - Dec 2024
Created a real-time GPS tracking system for efficient location updates.
 - Developed a real-time GPS tracking system, reducing response time by 30% through Firebase-powered location updates.
 - Utilized ESP8266 and the TinyGPS++ library for seamless Wi-Fi communication and accurate GPS data parsing, achieving 99% data accuracy while storing and retrieving coordinates using Firebase Realtime Database.
 - Architected a system for instantaneous GPS coordinate sharing via SMS, enhancing emergency response efficiency by 40%.
- **Moon Rover** Jan 2024 - Aug 2024
An ISRO's robotic competition called IRoC-U.
 - Developed and executed an advanced autonomous rover solution with auto-navigation and robotic arm capabilities, increasing operational efficiency by 40%, using V-SLAM and PID algorithms.
 - Developing a V-SLAM navigation model, improving accuracy by 30% using Intel Real Sense Depth Camera on Nvidia Jetson Nano for image processing.
 - Implemented PID algorithm for 30% smoother movement of robotic arm and speed control of rover motion in sandy terrains using Raspberry Pi, achieving precise object picking with Inverse Kinematics.
- **Waste Management Robot (WMR)** Dec 2023
Efficient waste management robot using Arduino IDE for sensor input and 3-axis robotic arm for segregation.
 - Designed a sensor pad with 85% accuracy for identifying waste like plastic, metal, paper, wet etc., using sensors and Arduino Mega.
 - Developed a 3-axis robotic arm, increasing segregation efficiency by 45%, for sorting waste into respective dustbins.
 - Engineered an omnidirectional rover with a 15 kg holding capacity using Arduino Uno, improving waste handling efficiency by 45%.

•5-Axis Robotic Arm

Jan 2024

Advanced 5-axis robotic arm employs OpenCV for color recognition and inverse kinematics for precise object placement

- Created a 5-axis robotic arm using high torque servo motors, achieving 95% precision in segregation applications.
- Leveraged advanced OpenCV color recognition to achieve 90% accuracy in object identification, employing inverse kinematics for precise placement.
- Executed PID algorithm for 30% smoother servo movement, ensuring precise control with minimal error, enhancing overall performance.

•Autonomous Mobile Robot (AMR)

Oct 2024

Developed an autonomous mobile robot (AMR) using ROS2 for navigation, obstacle avoidance, and path planning.

- Implemented SLAM (Gmapping) for real-time mapping and localization, improving the robot's navigation accuracy.
- Integrated LiDAR, ultrasonic sensors, and cameras for obstacle detection and avoidance, enhancing real-time decision-making.
- Utilized OpenCV for camera-based object detection, optimizing path planning and navigation in dynamic environments.

•RFID Attendance System

Nov 2023

Designed an RFID attendance system to automate and streamline attendance tracking.

- Designed and implemented an RFID attendance system, automating student attendance tracking and increasing accuracy by 25%.
- Developed an interface to upload attendance data to Google Sheets, reducing manual errors by using Google Apps Script.
- Enhanced accuracy and efficiency in attendance management, providing real-time data access and reducing manual errors by 95%.

TECHNICAL SKILLS AND INTERESTS

Languages: Python , Javascript , C++ , Embedded C, R, HTML , CSS

Developer Tools: VScode, AutoCAD, Fusion360, Jupyter Notebook, JetBrains, Arduino IDE, Microchip Studio, RPi OS, Blynk IoT, RemoteXY , Android Studio.

Databases: SQL, MongoDB

Technical Expertise : Robotics, Electronics, Internet of Things(IoT), Embedded Systems , Sensor Integration , ROS2 (Robot Operating System 2), Machine Learning, Mechanical Design , Web Development , App Development

Additional Projects: Quad copter , CNC Machine , Burglary Alarm System , Remote Controlled Car

Soft Skills: Effective communication , Leadership , Time management , Teamwork , Creativity, Problem Solving , Adaptability

Coursework: Electronic Engineering, IC Applications, Communication Systems, Internet of Things(IoT), Microprocessors and micro-controllers, Digital Electronics, AutoCAD, Process Instrumentation, Problem Solving and computer programming, MATLAB

Areas of Interest: Industrial and Mobile Robotics

POSITIONS OF RESPONSIBILITY

•Genral Secretary, Robotics Club NITW	Apr 2025 - Present
•Additional Secretary, Robotics Club NITW	Aug 2024 - Apr 2025
•Executive Member, Robotics Club NITW	Oct 2023 - Aug 2024
•Volunteer, Robotics Club NITW	Jan 2023 - Oct 2023

ACHIEVEMENTS

•First Prize: ECE's Hackathon NITW	November 2023
•4th Prize: MJ College Hackathon	December 2023
•Top 150 Teams in ISRO IROC Rover Making Competition	January 2024
•Patent Filed: Developed and applied for a patent for an EV GPS Locator.	December 2024
•Best Innovator and Best Innovation: Innovation Garage Ideathon	January 2025
•First Prize: Hitachi's Innothon	February 2025