Gampa Sai Sasivardhan

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4th Year
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Education

•National Institute of Technology Warangal *2023-Present*
B.Tech in Electronic and Communication Engineering (Minor Degree) CGPA: 9.25

•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

•Eternal Robotics *May 2025 - Jul 2025*
Project Intern Hyderabad , India

- Implemented an automated OCR and image classification pipeline using YOLO and PaddleOCR, improving text recognition accuracy by over 35% for industrial product labels, including both printed and low-contrast engraved text.
- Built batch and GUI-based perspective correction tools in OpenCV (Tkinter GUI), enabling real-time image correction and enhancing OCR preprocessing speed by 0.22s per image, deployed for quality assurance automation.

•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 Computer Vision 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.

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 , Buglary 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

•Technical Event Co-ordinator, Technozion *Oct 2025*

•Chairperson, IEEE SB NITW *Aug 2025 - Present*

•Genral Secretary, Robotics Club NITW *Apr 2023 - Present*

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*