

Chelimella Sampath

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Kamareddy, India.

SUMMARY :

- I worked as Junior Embedded Software Engineer in VisTan NextGen Pvt Ltd in Hyderabad. I have continuously demonstrated my capabilities in the Embedded domain. I have a good knowledge of C-programming ,Python, Linux, Ubuntu, ROS-1 ,Micro-Controllers, Arduino Due and Arduino Mega, WiFi, I2C protocol. I have an 2 years of experience in this domain.
- I hold a Bachelor's degree in Electronics and Communication Engineering. I have an certification on Embedded Systems & IOT in ISM university in Hyderabad.
- Embedded Software Engineer with hands-on experience in Robotics, IoT solutions, and Embedded systems development. Proficient in C, Python, and ROS-1, with a strong track record of leading robotics projects to completion, optimizing performance, and integrating cutting-edge sensor systems. Seeking opportunities to leverage my skills in robotics and embedded systems development.

WORK EXPERIENCE :

VisTan NextGen Pvt Ltd, Hyderabad

Mar 2024 - Aug 2024

Junior Embedded Software Engineer

- Real-time Systems, C Programming, IoT, Microcontrollers, Robotics, ROS-1, Sensor Integration.
- Lead the team with 3 members to develop, deploy and also testing for different Robots.
- C programming," "Arduino IDE," "Raspberry Pi," "ROS-1," "IoT Solutions," "Sensor Integration," and "Communication Protocols"
- Successfully developed autonomous robotic software, reducing human intervention by 40%, improving efficiency in production line tasks.
- Designed, analyzed and troubleshooted circuits to optimize production output and reduce downtime.

SOFTDEL SYSTEMS, Pune

Feb 2022 - Aug 2022

Embedded Trainee Engineer

- Implementing IOT solutions using MQTT for communication, Thingsboard for data visualization, and ESP 32 for hardware integration.
- Developed an IOT application utilizing ESP-32 for sensor data acquisition and mqtt for real-time data transmission to Thingsboard.
- Created interactive dashboards in Thingsboard for monitoring and analyzing device performance and data trends.
- Integrated various sensors with ESP32, Implementing efficient data handling and communication protocols.
- Strong knowledge of C-programming.

EDUCATION :

Bachelor's Degree in Electronics and Communication Engineering

Guru Nanak Institute of Technology, Hyderabad (06/2017 – 10/2020)

CGPA : 7.2

Higher Diploma in ECE

Government Polytechnic College, Nizamabad (06/2014 – 05/2017)

Percentage : 82.96%

PROJECT :

Developed the Autonomous(Flunkey) Robot with advanced Navigation and Mapping capabilities using YD-Lidar and Gmapping

Roles and Responsibilities:

- Designed and assembled an autonomous robot using Arduino Due and Raspberry Pi 4, integrating YD-Lidar, DC motors, MDD 10A motor drivers, and buck converters for enhanced performance.
- Managed power distribution with SB-50 and XT-60 connectors, ensuring reliable power supply for all components.
- Enhanced sensory capabilities with Raspberry Pi 3-compatible "eyes" for real-time processing.
- Proficient in spatial mapping with YD-Lidar and utilized Gmapping for SLAM to create accurate navigation maps.
- Developed and implemented navigation solutions using ROS-1, integrating various packages for sensor integration and autonomous navigation.
- Programmed control algorithms for autonomous operation, utilizing both Arduino and Raspberry Pi platforms.
- Experienced in configuring and tuning algorithms for localization, path planning, and obstacle avoidance to ensure precise autonomous navigation.
- Familiar with GIMP for map editing and utilized Arduino IDE for code integration in robotic components.
- Demonstrated strong troubleshooting skills to integrate various hardware components for seamless robotic system operation.
- Excellent communication and teamwork abilities, effectively collaborating with interdisciplinary teams.
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PROJECT : Development of Manual Control Robots

Roles and Responsibilities :

- Designed and Developed Manual Robots using Arduino Mega and NodeMCU, enhancing control and automation capabilities.
- Implemented Wireless Communication with NodeMCU, facilitating remote control and user interaction through the proprietary Merit Robot App.
- Conducted Rigorous Testing and Debugging to ensure reliability and performance, optimizing robotic system functionality.

- Integrated Hardware Components: Proficient in utilizing MDD10A motor drivers, DC motors, Buck converters, and Battery Management Systems (XT-60, SB-50 connectors) for precise movement control.
- Programming Skills: Experienced in interfacing with Arduino Due and Arduino Mega for hardware control and sensor data acquisition.

PROJECT : Skivvy (Robotic system for Automated Goods Delivery)

Roles and Responsibilities :

- Developed and deployed the 'Skivvy' robotic system, resulting in a 30% improvement in automated delivery efficiency using Raspberry Pi 5 and Arduino Due to enhance functionality and performance for industrial applications.
- Motor Control: Configured and tested MDD10A motor drivers with DC motors for precise and smooth movement.
- Power Management: Designed and implemented buck converter circuits for effective power distribution.
- Spatial Mapping: Utilized YD-Lidar for Gmapping and navigation, enhancing operational efficiency.
- System Assembly: Assembled the robot with a custom base plate and wheels, ensuring reliable connections using appropriate connectors and USB cables for communication.
- Testing and Troubleshooting: Conducted thorough testing and debugging to ensure system stability and performance, refining both hardware and software.
- Network Connectivity: Integrated routers for remote control and real-time data communication.
- Dynamic Display Integration: Configured a 33-inch display using HDMI to present dynamic information about the industry.
- Application Management: Deployed Docker on Raspberry Pi 5 to manage and scale applications effectively.
- Documentation and Collaboration: Documented design specifications and wiring diagrams, and collaborated with team members to integrate components and resolve technical issues.

SKILLS :

Programming Languages : C, Python, Embedded C.

Embedded Systems : Embedded systems development, real-time systems

Robot Operating System (ROS) : ROS-1 integration, Sensor Fusion, Robot Navigation, SLAM

Microcontrollers : Arduino Due, Arduino Mega, Raspberry Pi (3,4,5), ESP32, STM32

Hardware Integration : DC motors, buck converters, Ydlidar, MDD10A Motor Drivers

Communication Protocols : WiFi, I2C, MQTT,HTTP

Operating Systems : Linux, Ubuntu, Windows.

Protocols : MQTT,HTTP

Platforms : Thingsboard, Arduino IDE, , Linux/Ubuntu, Windows

Soft-Skills : Problem-solving, teamwork, and Leadership

CERTIFICATIONS :

Certification on **Embedded systems** and **IOT** in **ISM University** in Hyderabad.

Certification on project in **Bio-Medical Engineering**.

Certified in Internship Completion Certificate in **ECIL on Embedded Systems**.