CHENNAM SUNIL KUMAR

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Born on 15/03/1999

EDUCATION

National Institute of Technology Karnataka, Surathkal **2023-present**

Master of Technology – Mechatronics Engineering: CGPA **7.97/10***
Courses includes Embedded systems, Robotics and Automation, Automotive Electronics and Control Systems

JNTUA College of Engineering Pulivendula **2017-2020**

Bachelor of Technology – Mechanical Engineering: CGPA **8.29/10**
Courses includes Fluid and Thermal Engineering, Production Engineering and Theory of Machines

S.V.Government Polytechnic College Tirupati **2014-2017**

Diploma – Mechanical Engineering: Percentage **90.67**
Courses includes Fluid and Thermal Engineering, Production Engineering at Diploma level

EXPERIENCE

Engineering Assistant Grade II in Govt. of Andhra Pradesh **Dec 2020- August 2023**

- Worked as site engineer for various government funded civil infrastructure in Rural Areas.
- Includes People management, mobilization and motivation to make use of Govt. Schemes
- Monitoring Water supply to villages

SOFT SKILLS

- Team Management
- Human Resource Management
- Leadership
- People Management and Motivation

TECHNICAL SKILLS

- **Programming Languages** Python, C
- **Operating System** Linux OS (Ubuntu)
- **Design Software** Fusion360, SOLIDWORKS, MscAdams
- **Robotics** Robotic Operating System (ROS2), SLAM toolbox, Nav2Stack, Moveit2Stack (Python API)
- **Development Boards** Arduino, ESP32, Raspberry Pi
- **Others** LabView, NI DAQs, NI WSN, Siemens TIA Portal.

PROJECTS

Development of Dual Arm Static Base Domestic Service Robot **Undergoing**

- Objective is to Develop a domestic robot that performs tasks like opening and closing doors and pick and place objects
- Design and fabricate a prototype of robot
- Implementing ROS2 Frameworks and Moveit2 Stack for Arm manipulation
- Training Deep learning models for Object classification and Object Pose Estimation
- Simulating in Virtual Environment for Testing and Reliability.
- Implementing model on Hardware

Simulation of PUMA560 Robot manipulation using ROS **Oct 2024**

- Designing and Defining URDF of PUMA560 robot
- ROS2 control plugins as positional control for Robotic arm
- Moveit2 API to generate Trajectory to reach goal Pose
- Performed Robotic arm manipulation to reach defined goal and simulated in Gazebo Harmonic
  Link: https://github.com/holmes24678/puma560_ros2_moveit

Simulation of Autonomous Navigated Robot **June 2024**

- Designing and Defining URDF of mobile robot
- Differential Drive plugin for mobile robot control
- SLAM toolbox to generate map of virtual environment
- Nav2Stack to Autonomously Navigate to Set Goal Position
- Simulation done in Gazebo Simulator
  Link: https://github.com/holmes24678/SLAM_NAVIGATION_ROS

Embedded System for Smart Agriculture System IoT **Oct 2023**

- Weather control system to provide suitable weather in greenhouse for growth of vegetation
- Embedded Sensors used to measure the Soil moisture and intensity of light
- Arduino as microcontroller to control the mentioned weather parameters
- Soil moisture is controlled by water pump and light intensity Is controlled by fully opening and closing of roof
- Integrating Physical Embedded system to Things board IoT platform for Real time Monitoring

Embedded system for Automatic Air Conditioner Temperature Control System **Oct 2023**

- Temperature control of AC using BOSCH AGV by placing manually build IR remote on it
- Using QR codes sticked on floor to control the movement of BOSCH AGV using Raspberry pi
- Bosch AGV automatically detects the AC points and IR remote will trigger the AC to maintain set Temperature

POSITIONS OF RESPONSIBILTY

- Working as tutor for Applied Cyber Physical Systems (ACPS) Lab at NIT Karnataka.