

Sailendra Koppaka

Residence: Vijayawada, Andhra Pradesh, India - 521108.

E-mail: Koppakasailendra28@gmail.com *Telephone number:* +91-6305174752

Linkedin: linkedin.com/in/koppakasailendra *Portfolio:* sailendrakoppaka.com

Place of birth: Vishakapatnam, India. *Date of birth:* 28-09-2004

Education

B. Tech. Mechanical Engineering (Digital Manufacturing)

SASTRA Deemed University, Tamil Nadu, India.

Final CGPA: 7.594

Higher Secondary Education

Sri Chaitanya School

Board of Intermediate Education, Andhra Pradesh, India

Percentage: 84.3

Academic Projects

Design And Development Of 5-Dof Knee And Ankle Rehabilitation Robot *Team size: 3*

Tools: Fusion 360, ANSYS, 3D printing.

Period: Jan, 25- May, 25

- The project involved designing and developing a low-cost, multi-joint robotic rehabilitation system for knee and ankle injuries.
- The knee mechanism uses a lead screw system, while the ankle mechanism incorporates a universal joint structure enabling multi-axis motion. Designed using Fusion 360 and analyzed using ANSYS for structural analysis. 3D printed using ABS material.

Dynamic Integration of COBOTS and AGV in Manufacturing Systems *Team size: 3*

Tools: Collaborative robot, Automated guided vehicle, CoppeliaSim

Period: Nov, 24- Jan, 25

- Demonstrated cost reduction, minimized downtime, and improved efficiency in diesel engine manufacturing using robotics.
- Simulated AGV-mounted cobots with interchangeable end effectors in CoppeliaSim to optimize manufacturing flexibility.

A 5 DOF line follower Pick and place robot manipulator

Team size: 3

Tools: Arduino UNO, Arduino IDE, Robotics, 3D Printing

Period: Sep, 24- Nov, 24

- Developed a 5-DOF robotic manipulator that uses MG996R and SG90 servos with a 3D-printed structure for affordability and customization.
- Developed an 8-sensor-based autonomous robot using an Arduino motor shield, Programmed line-following logic and color sensing for dynamic navigation with mecanum wheels.

Design and Manufacturing of Electric 4-Wheeler Vehicle

Team size: 24

Tools: Siemens NX, SolidWorks, Ansys

Period: Jan, 24- Aug, 24

- Developed detailed 3D CAD models and comprehensive 2D engineering drawings using Siemens NX and SolidWorks, applying GD&T principles to ensure design accuracy, manufacturability, and compliance with industry standards.
- Performed FMEA-based risk assessment and led the fabrication and assembly of a fully functional electric vehicle prototype, translating digital designs into a real-world vehicle with validated performance and reliability

Smart Inventory Management System Using RFID

Team size: 2

Tools: Arduino IDE, RFID System, ESP32, C++, Google Sheets.

Period: Feb, 23- March, 23

- Developed a smart inventory management system using RFID technology and ESP32 micro controller for real-time tracking and recording of warehouse inventory.
- Integrated Google Sheets and Apps Script for automated inventory data management, enhancing efficiency and accuracy in logistics and supply chain operations.

Publications

Dynamic Integration of Collaborative Robots and Automated Guided Vehicles in Manufacturing Systems- A Simulation Study *Premier Journal of Science. Oct, 2025.*

Authors: Kuppan Chetty Ramanathan, Sailendra Koppaka, Harasha Kumara Pappula, Tharun T and Raja Narayanan.

DOI: 10.70389/PJS.100136.

Patent

An Apparatus for Rehabilitation

Dec, 2025

Authors: Kuppan Chetty Ramanathan, Pavan kalyan L, Sailendra Koppaka, Tharun T and Vishal Ram.

Application number: 202541099207, Publication number: 51/2025, Publication date: 19/12/2025.

iprsearch.ipindia.gov.in/PublicSearch/PublicationSearch

Conference

International Conference on Materials, Robotics and Automation, Computer and Control.

Aug, 2025

Conducted by: Vimal Jyothi Engineering College, Kannur, Kerala.

Oral presentation: Dynamic Integration of Collaborative Robots and Automated Guided Vehicles in Manufacturing Systems

Awards & Achievements

3rd Place - Electrical Four-Wheeler Design Challenge.

Aug, 2024

Conducted by: SAE India Southern Section.

As Vice-Captain of SASTRA Racing Team Vector- Achieved 3rd place at the Electrical Four Wheeler Design Challenge (SAEINDIA Southern Section) by leading the complete design, structural validation, and fabrication of a fully functional electric vehicle from concept to prototype.

Skills

Programming Languages/Tools

C, C++, C#, Python, ROS, CoppeliaSim, SolidWorks, PTC Creo, Siemens NX, MATLAB, ANSYS, Fusion 360.

Technical Skills

Robotics Programming, Robotics Modeling & Simulation, CAD modeling, Structural Analysis, Geometric Dimension and Tolerance, Product Design and development.

Soft Skills

Effective Communication, Team Collaboration, Problem-Solving, Time Management, Adaptability, Leadership, Project Management, Analytical Thinking.

Language proficiencies

Telugu Native Language

English Proficient user

Tamil Beginner

Deutsch Beginner