



S Sri Vaishnavi

Roll No.:220003068

B.Tech

Mechanical Engineering

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EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech. Major	Indian Institute of Technology Indore	8.5 (Current)	2022-Present
B.Tech. Minor (Economics)	Indian Institute of Technology Indore	8.33 (Current)	2023-Present
Senior Secondary	State Board	97.1%	2022
Secondary	CBSE Board	94.0%	2020

PROJECTS

- **Zepto Product Data Analysis** August 2025
Self Github
 - Analyzed Zepto's product dataset using SQL to derive insights on pricing, discounts, and stock patterns.
 - Cleaned and transformed raw data to estimate category-wise revenue and inventory trends.
 - Identified key opportunities in discount strategy and stock optimization to improve business performance.

- **Heart Disease prediction** September 2025
Self Github
 - Implemented a Sequential Artificial Neural Network (ANN) for binary heart disease prediction from 13 clinical features, incorporating StandardScaler for feature normalization.
 - Achieved 86.8 % ,84% precision, and 91% recall on the test data (metrics for heart disease positive class).

- **Motion Planning and Controls for Self-driving vehicles** Apr 2024-Jul 2024
IITI-Soc'24 Intelligent Vehicles and Robotics Github
 - Designed a simulation model for a 3-wheeled vehicle and applied data-driven algorithms (A*, RRT*) to optimize route efficiency and reduce navigation error.
 - Implemented Model Predictive Control (MPC) to forecast and correct deviations in vehicle trajectory, improving system accuracy by leveraging predictive modeling concepts.
 - Analyzed algorithmic performance metrics to determine optimal path-planning strategy, enhancing operational reliability and decision-making efficiency.

- **Retirement Plan** March 2023
Induction Task CFA Google Drive
 - Developed a comprehensive retirement financial plan for a hypothetical client, integrating inflation-adjusted expense forecasting
 - Risk-based asset allocation, and investment diversification across equity, debt, gold, and real estate.

- **Centralized Intelligence for Dynamic Swarm Navigation** Nov. 2024 - Dec. 2024
Inter IIT Tech Meet 13.0 Google Drive
 - Online Asynchronous SLAM for real-time mapping and localization
 - Dynamic Obstacle avoidance using ROS2 navigation stack and reinforcement learning-based Multi-Agent Deep Deterministic Policy Gradient (MADDPG) along with a centralized task allocator
 - Object detection using YOLOv8 for enhanced perception

TECHNICAL SKILLS

- **Programming:** Python, C/C++, MATLAB, Simulink, LabView
- **Designing and CAD Skills:** Fusion 360, Autocad, Autodesk Inventor
- **Tools/Frameworks:** ROS-2, Nav-2, Gazebo, RViz, OpenCV, Numpy, PostgreSQL, Pandas, Scikit-Learn, Tensorflow
- **Operating Systems:** Windows, Linux* * Elementary proficiency

KEY COURSES TAKEN

- **Mathematics:** Linear Algebra, Calculus, Numerical Methods
- **Machine Learning:** Supervised Machine Learning, Advanced Learning Algorithms
- **Mechanical Courses:** Strength of Materials, Fluid Machinery, Machine Drawing, Manufacturing Processes, Thermodynamics, Kinematics and Dynamics of Machines, Heat Transfer, Machining Science and metrology, Instrumentation and Control Systems

POSITIONS OF RESPONSIBILITY

- **Placement Coordinator**, Training and Placement Cell, IIT Indore *Mar. 2024 - Present*
- **Head of OPR**, Mechanical Engineering Students Association, IIT Indore *Oct. 2024 - Apr. 2025*
- **Head of Technicals**, Fluxus, IIT Indore *Oct. 2024 - Apr. 2025*
- **Member**, Robotics Club, IIT Indore *Jun. 2023 - Apr. 2025*
- **Member**, E-Cell, IIT Indore *Dec. 2022 - Aug. 2023*
- **Head of Events**, E-Summit'24, IIT Indore *Apr. 2024 - Sep. 2024*
- **Member**, Kalakriti Club, IIT Indore *Dec. 2022 - Aug. 2023*
- **Member**, Badminton Club, IIT Indore *Dec. 2022 - Aug. 2023*

ACHIEVEMENTS

- **Merit Based Scholarship**, Highest CPI among girls in Mechanical Department *2022, 2025*
- **Gold Medal**, IITI-Soc'24 , Intelligent Vehicles and Robotics *2024*
- **Gold Medal**, Intra Hostel Badminton Tournament *2022*
- **Silver Medal**, Athletics (Relay) in General Championship *2022*