Rishav Kumar

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Education

- **Bachelor of Technology in Automation and Robotics** 2022-25
  UNIVERSITY SCHOOL OF AUTOMATION AND ROBOTICS Surajmal Vihar New Delhi
- **Polytechnic In Mech Engineering** 2019-22
  Rani Jhansi Laxmi Bai Government Polytechnic, Loharu

Personal Projects

- **Online Shop App using Flutter**
  In this project, The author will share with you a nice and clean online shop app using Flutter. The app has two pages one for the product page which has a horizontal list of categories. Then on the details page, it shows the price and a short description of the product with the buy now button.
- **Cross-Platform Compass Application Using Flutter with Real-Time Sensor Integration**
  Developed a cross-platform Compass App using Flutter and Dart, leveraging real-time sensor data with flutter_compass and angle manipulation via vector_math. Designed for mobile and web, the app integrates responsive UI elements, event listeners, and platform-specific configurations, providing accurate heading direction on supported devices.
- **Smart Inventory Management System**
  Developed a Smart Inventory Management System using ML for demand forecasting. The tech stack includes ARIMA or Prophet for prediction, SQL on AWS RDS for inventory tracking, AWS Lambda for real-time data processing, AWS SageMaker for model training, and a Flutter app for inventory management. Key challenges involve accurate demand forecasting and seamless cloud integration.
- **UAV scenario using UAV Toolbox and Simulink in MATLAB**
  In MATLAB's UAV Toolbox and Simulink, initialize a UAV scenario with platforms, ground mesh, and cylindrical obstacles. Attach a lidar sensor to the first UAV. Use the UAV Scenario Configuration, Motion Write/Read, Get Transform, Lidar, and Scope blocks in Simulink to visualize UAV motion and lidar readings. Run the model to animate.
- **Smart irrigation system using Arduino**
  Create a smart irrigation system with Arduino Uno, soil moisture sensor, relay module, and water pump. Connect sensors to Arduino for soil moisture and optional DHT sensor for temperature/humidity. Code Arduino to activate the pump based on soil dryness. Enhance with Wi-Fi, RTC, solar power, and weather integration.
- **Smart door using Arduino Uno**
  Create a smart door with Arduino Uno, servo motor, magnetic door sensor, optional PIR motion sensor, ESP8266 Wi-Fi module, push button, LEDs, and necessary resistors. Connect components to appropriate pins, code Arduino for monitoring and control, and use ESP8266 for remote access. Test each component for smooth operation.
- **Intelligent chatbot for real-time interactions**
  Developed an intelligent chatbot for real-time interactions using ML for natural language understanding, SQL Cloud for data storage, and React with Flutter for frontend. Leveraged AWS Lambda for real-time data processing, Rasa/OpenAI GPT for NLP, AWS RDS/Google Cloud SQL for chat history, and integrated React and Flutter interfaces for seamless, cross-platform user engagement.

Experience

- **Indian Railway**

  I completed my training in the electrical lab with Indian Railways, Samastipur Division, where I gained hands-on experience and comprehensive knowledge of the electrical systems integral to railway operations. This training involved working with power distribution systems, signaling equipment, and locomotive electrification. I learned to troubleshoot, repair, and maintain these electrical components to ensure their efficient and safe functioning. This experience has equipped me with essential technical skills and a thorough understanding of the electrical infrastructure critical to the railway system.

•Internshala Training Virtual Internship

I completed my training in machine learning through Internshala, where I gained practical and theoretical knowledge on various aspects of machine learning. The program covered essential topics such as data preprocessing, regression, classification, clustering, and neural networks. I also worked on hands-on projects that involved real-world datasets, which helped in solidifying my understanding and application of machine learning concepts. This training has equipped me with the skills necessary to build and deploy machine learning models effectively.

•C-DAC, Noida

I completed an internship at CDAC Noida, where I focused on adaptive manufacturing and PCB design. During the internship, I successfully completed projects on 3D printing and gained practical experience in designing and fabricating PCBs. This experience provided me with valuable hands-on exposure to advanced manufacturing techniques and the intricacies of PCB development.

Technical Skills and Interests

- Programming Languages: HTML, CSS, JavaScript, Python, C or C++
- Software and Tools: MATLAB, SolidWorks
- Machine Learning: Data preprocessing, regression, classification, clustering, neural networks, demand forecasting with ARIMA or Prophet, AWS SageMaker
- Embedded Systems: Arduino projects, ESP8266 Wi-Fi module integration
- App Development: Flutter, Dart, cross-platform development, sensor integration
- PCB Design and 3D Printing
- UAV Simulation: MATLAB UAV Toolbox and Simulink

Positions of Responsibility

- On Desk Registrations VolunteerGGSIPU health mela
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