RAJ

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Introduction

Eager to contribute to challenging projects in a dynamic work environment while continuously growing both personally and professionally. Committed to delivering impactful results through dedication, adaptability, and a proactive mindset.

Education

Chandigarh University, B.E. in **Electronics and Communication Engineering**. Aug 2021 – Jun 2025

- **Coursework:** Data Structures(Basic), Interface Protocol , Computer Networks , Operating Systems , Java, RPA(Robotic Process Automation), OOPS Concepts , SQL , IOT

Skills

- **Soft Skills:** Communication , Teamwork and Collaboration, Adaptability, Problem-Solving, Time Management.
- **Certifications:** RPA Developer by Infosys
- **Technical Skills:** Programming: Java , Python(Basic)
  Platforms: Arduino, Raspberry Pi , VScode , Mysql , Github
  Database:SQL

Projects

Auto Rover (Autonomous Line-Following Robot)

- **Problem:** Manual navigation of robots or vehicles in structured environments (like industries, warehouses, or line-based paths) is inefficient, error-prone, and time-consuming.
  There is a need for a system that can **automatically navigate along predefined paths** without human intervention.
- **Solution:** We developed an autonomous line-following robot that uses IR sensors to detect black lines on a white surface. An Arduino Uno processes sensor data in real-time to control movement. Based on line position, the robot adjusts direction using a motor driver circuit.
- **Tools:** Arduino C++(setup() , loop()) **,** Arduino Uno , Motor Drivers , IR Sensor

IoT Vehicle Accident Detection Tracking System- Hackathon Winners

- **Problem:** In remote or highway areas, immediate accident detection and location tracking is difficult, delaying emergency response..
- **Solution:** We developed an IoT-based system using sensors and GPS to detect vehicle accidents in real-time and send location alerts to emergency contacts.
- **Tools: :** Arduino C++(SoftwareSerial.h , wire.h , MPU6050.h) **,** Arduino Uno , Accelerometer , Gsm and Gps Module , gas sensor mq3

Smart Sheltering -Patent

- **Problem:** In disaster-prone areas, **delayed or mismanaged sheltering** leads to loss of lives due to lack of real-time information, overcrowding, and inefficient resource distribution.
- **Solution:** A **Smart Sheltering System** that uses **IoT-based sensors** to monitor shelter occupancy, weather conditions, and resource availability in real time, and automatically **alerts authorities**
- **Tools:** Rasberrypi **,** Arduino C++ , Rain Sensor , Gas Sensor (MQ-3) , GPS Module

Automated Data Extraction from Online Stores Using UiPath RPA

- **Problem:** Manual data collection from e-commerce websites for product prices, availability, or specifications is time-consuming, error-prone, and inefficient—especially when dealing with frequent updates across multiple sites.
- **Solution:** An automated Robotic Process Automation (RPA) solution using **UiPath** extracts structured data (e.g., product name, price, stock status) from online stores and stores it into a spreadsheet or database, enabling faster, error-free, and scheduled data collection without manual intervention.
- **Tools:** UiPath , Orchestrator

Extra-curricular

Hackathon

- Multiple Departmental and University-level Hackathons

Competition

- Participate in speech Competition and Events

Achievements

- Winner of Impulse2K24 Hackathon
- Filed a patent for an innovative Smart Shelter in collaboration with the university's robotics department.