

## Sudhanshu Ranjan

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## Projects

### Smart Waste Management System (IoT Project) | Arduino

Mar 2025 - Apr 2025

- Programmed microcontrollers to automate lid control using servo motors and trigger alerts via buzzers based on bin capacity and environmental conditions.
- Implemented sensor-driven logic to monitor waste levels, detect obstacles, and ensure efficient operation in varying weather conditions.
- Enhanced operational efficiency and sustainability in waste collection by reducing manual intervention and promoting automated decision-making.

### IPL Data Analysis with R Programming | R, dplyr, tidyverse

Apr 2025 - May 2025

- Performed comprehensive data cleaning, data preprocessing, and exploratory data analysis (EDA) on IPL datasets using dplyr, tidyverse, and ggplot2 in R.
- Enforced predictive analytics techniques to forecast match outcomes and player performance using statistical modeling and residual analysis.
- Developed and evaluated multiple regression models (linear, polynomial) to analyze relationships between match statistics and team performance.

### Simple Linear Regression Analysis in R | R, dplyr, tidyverse

Feb 2025 - May 2025

- Conducted residual analysis to validate linear regression assumptions, evaluate model fit, and detect outliers.
- Evaluated model performance using metrics such as R-squared, Mean Squared Error (MSE), and visualization techniques.
- Interpreted statistical outcomes to derive actionable insights and improve model accuracy through iterative refinement.

### Electric Vehicle Portal Website | HTML, CSS

Sep 2023 - Nov 2023

- Constructed a web platform for users to explore comprehensive information about electric vehicles (EVs), including features, benefits, and sustainability aspects.
- Applied a responsive design using CSS, ensuring a seamless user experience across various devices.
- Curated detailed content sections on government incentives, charging solutions, and environmental benefits to inform and assist potential EV buyers.

## Certificates / Certifications

### Python Basics for Data Science

Oct 2024

EDX — <https://courses.edx.org/certificates/ee2eb65325aa487db2bbaf3cd267b83e>

### Programming Foundations with JavaScript, HTML and CSS

Nov 2024

Coursera — <https://coursera.org/share/fa1d02f926cbd2efa0784672e4050868>

### Complete SQL Bootcamp

Mar 2025

Udemy — <https://www.udemy.com/certificate/UC-121269ce-29ce-48a1-9490-f4eae361a651/>

### The Complete Introduction to Excel

May 2025

Udemy — <https://www.udemy.com/certificate/UC-dcdf42a3-457c-40ce-b375-0462bf886a7f/>

## Skills

**Languages** C, C++, JavaScript, Python, R, Prolog

**Technologies/ Frameworks:** HTML, CSS, DBMS, GitHub, MySQL

**Domain Skills:** Data Structures and Algorithms, Problem-Solving

## Education

### Lovely Professional University

2023 – Present

Bachelor Of Computer Application — CGPA: 7.5

Phagwara, Punjab

### St Joseph Senior Secondary School

2019 – 2021

12th — Percentage: 67.04%

Muzaffarpur, Bihar

### DAV Public School

2018 – 2019

10th — Percentage: 76.04%

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