# Ravi Kumar

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## Profile

Data Scientist and Machine Learning Engineer with hands-on experience in data analysis, predictive modeling, computer vision, and deep learning. Specialized in transforming raw data into actionable insights, building PoC ML models, and delivering end-to-end analytical solutions for real-world problems.

## Core Skills

- **Programming & Tools:** Python, SQL, C++, Git, GitHub, Jupyter Notebook, VS Code
- **Data Analysis:** Pandas, NumPy, Exploratory Data Analysis (EDA), Feature Engineering
- **Machine Learning:** Regression, Classification, Clustering, Model Evaluation
- **Deep Learning:** Neural Networks, RNN, LSTM (Time Series Forecasting)
- **Computer Vision:** Object Detection, Person Count Analysis, Video Frame Processing
- **Visualization & BI:** Power BI, Matplotlib, Seaborn
- **Databases:** MySQL, SQL Queries, Joins, Aggregations
- **Web Basics (for ML Apps):** HTML, CSS, JavaScript, FastApi and Streamlit

## Freelance & Practical Projects

- **AstroBot – AI-Powered Space & Weather Assistant**　　*LLMs, RAG, Web AI*
  Developed an AI chatbot web application that provides real-time space and weather insights using ISRO MOSDAC data sources.
  Implemented Retrieval Augmented Generation (RAG) with FAISS, web crawling, voice input, session management, and PDF export functionality.
  *Use Case:* Space research assistance, weather intelligence, and educational applications.

- **AI-Based Traffic Prediction (PoC using LSTM/RNN)**　　*Deep Learning, Time Series*
  Designed a proof-of-concept deep learning model to forecast real-time traffic patterns using sequential data.
  *Outcome:* Improved traffic trend prediction accuracy for congestion analysis.

- **Computer Vision – Person Presence Analysis**　　*Computer Vision, Video Analytics*
  Built a model to detect and count how many times a particular person appears in a given video frame sequence.
  *Use Case:* Surveillance analytics and attendance monitoring systems.

- **Google Play Store Data Analysis (EDA & Feature Engineering)**　　*Python, SQL*
  Performed data cleaning, exploratory analysis, and feature engineering to identify key factors influencing app ratings and installs.

- **D2C E-commerce Business Plan (Hackathon Project)**　　*Market Analysis, Web Development*
  Created a complete business strategy and website prototype for an ethnic wear brand by analyzing competitor data and market trends.

- **Spaceship Titanic – Kaggle Competition**　　*Machine Learning*
  Built and optimized classification models using feature transformation and hyperparameter tuning techniques.

## Certifications

- **Advanced SQL** – Kaggle Learn (2025)
  Skills: Complex Joins, Aggregations, Query Optimization

- **Innovation Hackathon** – Physics Wallah (2024)
  Skills: Business Analysis, Frontend Development

## Additional Information

- **Freelance Availability:** Open for short-term and long-term projects
- **Languages:** English, Hindi (Native)
- **Interests:** Data-Driven Trading, AI Research, Public Speaking, Cricket