Mondal Rahul Kanchan

8156023089 — Email — Linkedin — Portfolio — Github

Skills

Languages C, C++, Python, JavaScript, TypeScript, Java, MATLAB
UI Design Figma, Framer
Frontend Tailwind CSS, Shadcn UI, React.js, Next.js
Backend MongoDB, MySQL, Prisma, Express.js, Node.js
Data Analysis Numpy, Pandas, Scikit-learn, Matplotlib, Seaborn, MS Excel/Google Sheets, PowerBI
IoT Raspberry Pi, Proteus Design Suite
Other Tools Project Management(Git/Github, Linux, Notion Workspace), 3D(Blender), Electronics(Cadence Virtuoso, Ansys Electronics)

Experience

Solar Secure Solutions **May 2025 – July 2025**
Data Science Intern

- Gained hands-on experience in the full data science process, including data cleaning, feature engineering, and model validation.
- Utilized Python and data science libraries to derive actionable insights from datasets.

Karmveer Charitable Trust/Aryavrat Nirman Charitable Trust **May 2022 – June 2022**
Civic and Social Intern)

- Managed project documentation and community engagement efforts.
- Assessed and analyzed ethical, cultural, and social impacts effectively.

Positions of Responsibility

Sky Mavericks Team **Aerothon 2023, SAE**
Flight Controller Department Head

- Developed Uncrewed Aircraft System (UAS) by selecting optimal components and firmware
- Key Insights: I gained a solid understanding of various FCs, their respective firmwares, Mission Planning Simulators and Ground Control and configuration programs(PX4, Ardupilot, Gazebo, MissionPlanner etc.).

Avionics Club **Nov 2022 – May 2022**
Graphic Designer

- Created engaging graphics using Canva to boost online engagement.
- Collaborated with teams to ensure consistent branding.

Education

Pandit Deendayal Energy University **2021-2025**
B.Tech in Information and Communication Technology *CGPA: 8.52*

Certifications
1. NPTEL Privacy and Security in Online Social Media (Elite+Silver, 78%) *2024*
2. SAE Certificate for Participation *2023*

Projects

Connext: Social Media Application **(TypeScript, Next.js, Shadcn UI, Tailwind CSS, Clerk, Prisma, Vercel)**

- Developed a full-stack social media application using Next.js 14 (App Router), Prisma, and PostgreSQL.
- Implemented user authentication/authorization (Clerk), responsive UI (Tailwind CSS, Shadcn UI), and server-side rendering (SSR).
- Developed core features including user posts, comments, likes, and following/followers functionality.
- Deployed on Vercel.

BehindTheTube **(Node.js, Express.js, MongoDB, Mongoose, JWT, Cloudinary, Multer)**

- Developed a backend API for a YouTube-like platform.
- Implemented user management (authentication/authorization with JWT, profiles, watch history), video management (uploads to Cloudinary, streaming, visibility control, editing, search), and community posts integration (post management, likes/dislikes).
- Developed subscription/playlist management and a channel statistics dashboard.
- Utilized Multer for file uploads and Postman for API testing.

MarketMiner **(Langchain, FAISS, OpenAI Embeddings, Streamlit)**

- Developed an end-to-end LLM-powered equity research analysis tool.

- Implemented semantic search using OpenAI Embeddings and FAISS for efficient retrieval of relevant text chunks from large datasets.
- Utilized vector databases for optimized search and retrieval performance.
- Implemented MapReduce to handle large token sizes exceeding LLM limits.
- Built and deployed the application using Streamlit.

RooMote **(Raspberry Pi, Flask (Python), Proteus Design Suite)**

- Designed, simulated, and prototyped a smart home system using a Raspberry Pi, Flask, and Proteus.
- Developed a web interface (Flask) for control of home appliances and sensor monitoring.
- Simulated circuit design and communication (Compim, Virtual Serial Port Emulator) in Proteus before Raspberry Pi deployment.
- Implemented control of appliances (lights, fans) and integrated sensor data.

Keylogger Detection System **(Python, Pandas, Seaborn, Matplotlib, Scikit-learn)**

- Developed a machine learning-based system to detect keyloggers using supervised and unsupervised models.
- Implemented multiple ML algorithms, including Logistic Regression, Random Forest Classifier, Gradient Boosting, LightGBM, and Auto-encoders.
- Applied advanced feature selection techniques such as correlation analysis, SelectKBest (chi-squared), ExtraTreesClassifier, SelectFromModel (RandomForest), and Recursive Feature Elimination (RFE).
- Identified Random Forest Classifier and Auto-encoders as the best-performing models for accurate keylogger detection.
- Enhanced system security by detecting keylogging behaviors based on keystroke patterns and statistical analysis.

Hotel Booking Insights **(Python, Pandas, Seaborn, Matplotlib, Scikit-learn)**

- Analyzed hotel booking data to identify trends, patterns, and insights for improved hotel management.
- Provided insights into booking cancellation rates, lead time trends, customer demographics, seasonal trends, and the impact of special requests on customer satisfaction.
- Developed machine learning models (Naive Bayes, K-Nearest Neighbor, RandomForest, DecisionTree) to predict booking outcomes.
- Achieved a 0.956 accuracy score with the Random Forest model.

OLA Rides Insight **(MS Excel, PowerBI)**

- Developed an interactive PowerBI dashboard for OLA ride data with 103,025 rows, providing actionable insights on ride volume, revenue, vehicle performance, and customer behavior.
- Visualized key metrics: ride volume over time, ride distance distribution, booking status breakdown, and top-performing vehicle types.
- Analyzed revenue streams by payment methods and identified top 5 high-value customers.
- Identified cancellation patterns with insights into driver and customer behavior.
- Evaluated customer experience by tracking driver and customer ratings.
- Delivered data-driven insights that support strategic decision-making and operational efficiency.

Amazon Sales Dashboard **(MS Excel, PowerBI)**

- Built an interactive PowerBI dashboard for Amazon sales data with 128,977 rows, enabling deep sales and fulfillment analysis.
- Cleaned and pre-processed data to enhance data accuracy and ensure seamless visualization.
- Created pivot tables and visualized key metrics like order status, fulfillment type, service levels, and product categories.
- Analyzed revenue distribution by state, product size, and category to identify high-performing segments.
- Tracked logistics efficiency by visualizing courier status and shipping service levels.
- Provided actionable business insights through state-wise sales performance and quantity analysis.
- Enhanced decision-making with clear visual breakdowns of fulfillment types and delivery performance.