Mondal Rahul Kanchan

📞 8156023089 — ✉ Email — 🔗 Linkedin — 💼 Portfolio — Github

Skills

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

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

ProxyPapi   **(Express.js, TypeScript, MongoDB, Mongoose, Prometheus, Grafana)**

– Developed a robust proxy API service to manage rate limits for third-party APIs transparently.
– Implemented API key-based authentication and custom rate-limiting strategies (Token Bucket).
– Enabled dynamic API key handling for services like OpenAI and Gemini.
– Integrated Prometheus and Grafana for real-time monitoring and analytics of API usage, performance, and queue statistics.
– Supported app registration for third-party APIs with configurable rate limits.
– Ensured full request/response integrity while forwarding requests to registered APIs.
– Provided clear error responses when rate limits are exceeded, with queued processing.

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.