Frank Mathew Sajan

Amaravati, India | frankmathewsajan@gmail.com | Portfolio | LinkedIn | Github

Education

Vellore Institute of Technology, Amaravati Expected May 2027

- Bachelor of Technology in Computer Science | 8.68 (out of 10.00) CGPA
- **Relevant Coursework:** Data Structures and Algorithms, Database Management Systems (DBMS), Statistics for Data Science, Object-Oriented Programming Systems (OOPS), Software Development Life Cycle (SDLC).

Technical Skills

Programming Languages: Python, SQL, JavaScript (ES6+), Java.

Data Analysis & Visualization: Pandas, NumPy, Matplotlib, Seaborn, Excel, statistical analysis, data cleaning and transformation.

Web & UI/UX Development: React + Vite.js, TypeScript, Node.js, Django, REST APIs, responsive design.

Databases & Cloud: MySQL, PostgreSQL, Supabase, AWS, Firebase.

Software Engineering: Git, CI/CD, SDLC, agile methodologies, version control.

Analytics Tools: Data pipeline design, reporting solutions, business intelligence, performance optimization.

Experience

Software Engineer Intern, IIEC VIT-AP, Amaravati Aug 2023 – Present

- Analyzed sensor data patterns from agricultural drones to optimize path-planning algorithms, reducing fertilizer waste by 25% through data-driven insights and statistical modeling.
- Built data processing pipelines for real-time hazard detection systems, handling thermal/IR/gas sensor data with 99.5% accuracy in industrial environments.
- Designed analytics dashboards and reporting solutions to visualize system performance metrics, enabling stakeholders to make informed decisions about safety protocols.
- Collaborated with cross-functional teams to translate business requirements into scalable data solutions, implementing ML models on AWS EC2 with REST API integration.
- Applied SDLC principles throughout project lifecycle, ensuring quality deliverables through systematic testing and documentation.

Projects

School Management System - Data Analytics Platform `Live Demo`

- Deployed a comprehensive analytics solution for a rural school in Agra, **analyzing student performance data and administrative workflows to reduce manual tasks by 40%**.
- Implemented advanced SQL queries and database optimization techniques, improving report generation speed by 35% and enabling real-time insights.
- **Developed interactive dashboards** using React and TypeScript frontend with PostgreSQL backend, providing stakeholders with actionable business intelligence and data visualizations.

Industrial Data Monitoring & Analytics (Smart Helmet System)

- Built a real-time data analytics platform for industrial safety monitoring, processing multi-sensor datasets and generating predictive insights for hazard prevention.
- Designed automated reporting solutions with anomaly detection algorithms, reducing false alerts by 30% through advanced data analysis and pattern recognition techniques.

Achievements

- **NASA Space Apps Challenge 2024 Global Nominee** (Top 1% of 93,520+ participants)

  Applied advanced data analysis techniques to satellite datasets, creating innovative solutions for ocean literacy education through data visualization and analytics. [Results]
- **1st Prize, HackAP Hackathon**

  Engineered a data-driven hazard detection system with advanced analytics for industrial environments, leveraging statistical analysis and machine learning for improved safety outcomes.