Vats Pratap Singh

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TECHNICAL SKILLS

Backend: C++, Python, Node.js,

Frontend: React.js, HTML, CSS

Database: PostgreSQL, MongoDB, MySQL

DevOps & Tools: GitHub, Jenkins, Amazon Web Services

EDUCATION

Vellore Institute of Technology, Bhopal   Aug 2022 – Aug 2026

B.Tech in Computer Science and Engineering (Cloud Computing and Automation)

CGPA: 8.42

PROJECTS

VaultSphere: Multi-Tenant SaaS with ML Anomaly Detection   May 2025 – Sept 2025

- Engineered a full-scale **multi-tenant SaaS platform** ensuring tenant data isolation and scalability using **AWS EC2, S3, and RDS**.
- Developed **Node.js + Express backend** with JWT authentication, role-based access control (RBAC), and audit logging.
- Integrated **LSTM Autoencoder and Isolation Forest** models for real-time anomaly detection in user activity logs.
- Deployed infrastructure using **CI/CD (GitHub Actions)** and implemented **auto-scaling** for high availability.
- Built an analytics dashboard in **React.js** for visualizing tenant-wise security insights and anomaly trends.

DevStream: CI/CD Pipeline with Jenkins and Docker   Jul 2025 – Aug 2025

- Built a complete CI/CD pipeline project demonstrating modern DevOps practices with automated build, test, and deployment workflows.
- Implemented **Jenkins declarative pipeline** with GitHub webhook triggers for continuous integration.
- Containerized backend API using **Docker multi-stage builds**, improving security and efficiency.
- Automated **unit & integration testing** with Jest and Supertest, achieving over **50% code coverage**.
- Integrated **ngrok** for secure webhook tunneling and configured GitHub hooks for real-time triggers.

CloudVault: Full-Stack Cloud File Manager   Jul 2025 – Aug 2025

- Developed a **full-stack cloud-based file manager** enabling users to securely upload, view, and delete files using **AWS S3** storage.
- Built the **backend with Node.js, Express, and AWS SDK**, integrating **Multer** for seamless file uploads and S3 bucket operations.
- Designed a responsive **Next.js + TypeScript frontend** with smooth **Framer Motion** animations and custom UI styling.
- Implemented environment-based configuration using **.env files** and AWS IAM roles to ensure secure and scalable deployment.
- Enhanced user experience through a modern, intuitive interface for real-time file management and cloud synchronization.

NEXUS: Real-Time Social Chat Application   Jun 2025 – Jul 2025

- Designed and implemented a full-stack **MERN** chat application with real-time messaging, video calls, and social networking features.
- Developed backend services with **Node.js, Express.js, and MongoDB**, including JWT authentication and bcrypt password hashing.
- Integrated **Stream Chat & Video APIs** for instant messaging, video calls, notifications, and presence tracking.
- Built a responsive React frontend with **Tailwind CSS, DaisyUI**, deployed on **Render**, and used MongoDB Atlas as cloud DB.

TerraTech: Intelligent Crop Price Forecasting   Sept 2024 – Jan 2025

- Developed a machine learning web application for intelligent crop price forecasting using **Flask, TensorFlow, and XGBoost**.
- Implemented **LSTM** and **XGBoost** models, combined into a hybrid approach for improved accuracy.
- Built an interactive Flask-based UI with data upload, model selection, and real-time forecasting features.
- Deployed dashboards with visual analytics for trend detection, market volatility, and policy recommendations.

CERTIFICATIONS

IBM DevOps Fundamentals

OCI Certified Generative AI Professional

OCI Certified Developer Professional