Chaitanya Raj

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Summary

Full-Stack AI Software Engineer specialized in architecting scalable web applications and AI systems using MERN, PERN, Python backends, and ML services. Expertise in delivering Dockerized deployments and low-latency APIs (<1s), backed by a rigorous foundation in Data Structures and Algorithms.

Education

Bennett University, Greater Noida *(2027)*

B.Tech in Computer Science

- GPA: 8.20 (current)

Work Experience

Ignou Tutor — Node.js Developer Intern *Dec 2025 – Present*

- Assisted in backend development using **Node.js**, **Express.js**, and **TypeScript** with a **MySQL** database.
- Developed and maintained **RESTful APIs** and integrated backend services with databases.
- Contributed to feature development, bug fixes, and performance optimizations.
- Followed coding standards, documentation practices, and security guidelines.
- Collaborated with the core engineering team and participated in code reviews and technical discussions.

Technical Skills

- **Languages:** Java, JavaScript, Python, TypeScript, HTML, CSS
- **Frameworks:** React.js, Next.js, Node.js, Express.js, Flask, Tailwind CSS
- **Databases & ORM:** MongoDB, PostgreSQL, MySQL, Prisma ORM , Sequelize ORM.
- **AI / ML:** Prophet, pandas, NumPy, Isolation Forest, Time-Series Forecasting, Anomaly Detection
- **DevOps & Tools:** Docker, Docker Compose, Git, GitHub, Render, Vercel
- **Others:** REST APIs, Async/Await, Routing, Chrome Extensions

Projects

FinSight-AI *GitHub* *Demo*

- **Architected** a full-stack AI finance platform featuring automated expense tracking, predictive spending analytics, and anomaly detection with ˜90% categorization accuracy.
- **Optimized** domain-specific ML models for time-series forecasting and categorization, handling 1,000+ records per user with sub-second (¡1s) inference latency.
- **Spearheaded** behavior-based anomaly detection logic, yielding a 3× reduction in false alerts compared to traditional fixed-rule spending thresholds.
- **Orchestrated** the containerization of AI services via Docker, accelerating ML deployment cycles and reducing environment setup time from hours to under 10 minutes.
- Tools Used: Next.js, Tailwind CSS, Node.js, Express.js, PostgreSQL, Prisma ORM, Python, Flask, Docker, Docker Compose, Railway, Vercel.

Buddy *GitHub* *Demo*

- **Engineered** a high-concurrency MERN-stack ride-sharing application utilizing a custom matching algorithm and real-time GPS tracking for 300+ active users.
- **Streamlined** user matching through real-time messaging integration, successfully cutting average confirmation wait times from 2 minutes to ¡30 seconds.
- **Integrated** precise location APIs for mapping and developed a robust history module that facilitates instantaneous 1-click ride rescheduling.
- **Automated** deployment workflows using Docker Compose and CI/CD pipelines, slashing developer onboarding and environment setup time by over 95%.
- Tools Used: React.js, CSS, Docker, Docker Compose, Node.js, Express, MongoDB, Render, Vercel.

AgriConnect *GitHub* *Demo*

- **Developed** an AI-driven agricultural analytics suite (MERN/Flask) to process 1,000+ daily field images for visualization on a Framer Motion dashboard.
- **Designed** a Vision Transformer (ViT) with a Deep Gaussian Process Classifier to fuse multi-modal sensor data, achieving 87% validation accuracy in pest detection.
- **Formulated** a decision-theory framework utilizing EVPI/EVPPI to deliver precise irrigation recommendations, increasing farm management efficiency by 50%.
- **Leveraged** geospatial mapping to monitor crop stress across 500+ acres, replacing manual reporting with automated PDF generation to save 90% of analysis time.
- Tools Used: React.js, CSS, Node.js, Flask, Express, MongoDB, Framer Motion.