Preetham Dandu

(934)221-6209 | preethamdandu8@gmail.com | linkedin.com/in/preetham-dandu | github.com/preethamdandu

Education

Stony Brook University, Stony Brook, New York **January 2024 - December 2025(Expected)**

Master of Science in Computer Science *GPA: 4.0*

- **Coursework:** Analysis of Algorithms, Operating Systems, Network Security, Visualization, Machine Learning, Data Science Fundamentals, Simulation and Modeling

Vellore Institute of Technology, Amaravati, India **June 2019 - May 2023**

Bachelor of Technology in Computer Science and Engineering (Spec. in Networking and Security)

Technical Skills

Backend: Java, Python, Flask, FastAPI, Spring Boot, Node.js, REST API Development, PostgreSQL, MySQL
Frontend: JavaScript, TypeScript, React.js, Streamlit, d3.js, HTML, CSS, Chart.js
Developer Tools/Platforms: Git, Docker, Kubernetes, Apache Kafka, gRPC, Redis Jenkins, CI/CD Tools, Linux, AWS (EC2, RDS, S3), Postman
Design Oriented Topics: Distributed Systems, Analysis of Algorithms (**Dr. Rezaul**), Network Security, OS

Work Experience

Research Assistant, Knowledge Systems Lab Link **June 2024 – May 2025**

Stony Brook University - Advisor: Dr. Paul Foder *Stony Brook, NY*

- Designed and deployed **real-time ETL pipelines** for fetal heart rate data using Python and PostgreSQL, enabling structured, **HIPAA-compliant** storage and live clinical data access.
- Built **anonymization** and data-quality jobs on top of the ETL pipelines, ensuring HIPAA-compliant data flows and reliable live datasets for downstream clinical tools.
- **TechStack:** Python, PostgreSQL, SQL, ETL Pipelines, AWS, GitHub, Data Anonymization, HIPAA

Software Engineer - Full Time **August 2023 – December 2023**

HCLTech *Chennai, India*

- Developed and **productionized backend services** in Python to integrate predictive models into enterprise systems, ensuring low-latency data delivery and system reliability.
- Designed **RESTful API endpoints** using **OpenAPI (Swagger)** specifications to facilitate seamless communication between analytical services and downstream microservices.
- **Optimized** large-scale data retrieval and storage processes using **SQL and Hadoop**, significantly **improving query performance** for business-critical applications.
- **TechStack:** Python, SQL (PostgreSQL), Hadoop, REST APIs (OpenAPI/Swagger), Git, Agile.

Full Stack Developer Intern **January 2023 – May 2023**

Oriana Information Technologies LLP *Chennai, India*

- Developed an e-commerce web app, FashionBOLTz, with secure payments using **AES encryption** and efficient SQL access via JDBC.
- Refactored five key user pages in React.js by implementing code-splitting, resulting in a 30% reduction in the main JavaScript bundle size and measurably faster load times.
- **TechStack:** Java, JSP, React.js, HTML, CSS, JavaScript, MySQL, JDBC, AES, HeidiSQL

Projects

NexusLogistics – Distributed Package Tracking & Route System Link **February 2025 – April 2025**

- Architected a polyglot microservices platform (Go, Node.js, Java) achieving **19,200 RPS at 13ms P99 latency**, utilizing **gRPC and Kafka** to deliver a **38x performance improvement** over monolithic baselines for real-time fleet tracking.
- Engineered a **Redis write-through caching layer** and distributed A routing engine, reducing query latency by **95% (sub-5ms)** and ensuring **exactly-once processing** for complex route optimizations under high concurrency.
- **TechStack:** Go, Node.js, Java, Next.js 15, gRPC, Apache Kafka, Redis, PostgreSQL, Docker, Kubernetes, Nginx, Prometheus, Grafana

FinGuard – Cloud-Native Payment & Expense Platform Link **September 2024 – January 2025**

- Architected a **Java-based microservices platform** for 1,000+ users, achieving 100% test coverage for JWT/RBAC security modules.
- **Reduced fraud errors by 30%** by integrating a Python anomaly engine into an automated AWS pipeline via Docker and Terraform.
- **TechStack:** Java (Spring Boot), Python, PostgreSQL, MongoDB, Docker, Terraform, CloudWatch, Grafana

PetNotify – Scalable Notification Platform for Pet Owners & Clinics Link **March 2024 – June 2024**

- Developed a scalable Notification Platform enabling users to manage, send, and monitor transactional email/SMS/push alerts with subscription and delivery status controls.
- Implemented a React dashboard and Java backend integrating AWS services, message queues, and third-party messaging APIs for real-time visibility and reliability.
- **TechStack:** Java (Spring Boot), React.js, AWS (SNS/SQS, EC2, S3), Docker, HTML/CSS, PostgreSQL, JWT, GitHub Actions