Sai Kumar Bachireddy

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Education

University of Florida — 01/2023 – 12/2024
Master of Science in Computer Science | GPA: 3.8 — *Florida, United States*

Technical Skills

Languages: Python, Java, JavaScript, TypeScript, Go
Databases: MySQL, Oracle, PostgreSQL, Redshift, MongoDB, Elasticsearch, Neo4j, Redis, DynamoDB
Cloud Technologies: AWS – EC2, S3, ECS, Lambda, RDS, ELB, IAM, SNS, EventBridge, CloudFront, Route 53
Frameworks & Libraries & Tools: React, jQuery, NodeJS, ExpressJS, Flask, FastAPI, Spring Boot, Docker, Kubernetes, GraphQL, gRPC, Prometheus, Grafana, RabbitMQ, Kafka

Certifications

- **AWS Certified Solutions Architect – Associate** — 09/2024 - 09/2027
- **Apollo Certified Graph Developer – Associate** — 05/2025

Experience

Software Development Engineer — 01/2024 – present
National Science Foundation — *Gainesville, FL*

- Designed a SaaS-based AI-integrator to streamline ML workflows, reducing development time by 80% and increasing deployment efficiency by 40% through **Hugging Face API** integration and **Dockerized** environments.
- Optimized the platform for high-performance computing environments by integrating with Intel Gaudi 2 accelerators and Sapphire Rapids CPUs, enabling efficient parallel processing, scalability and faster execution.
- Integrated **CI/CD** pipelines with **GitHub Actions** to automate testing, builds, and application deployments.
- Architected a real-time monitoring system using **Prometheus** and **Grafana** to collect, analyze, and visualize critical system performance metrics, enabling early issue detection and improving resource utilization by 30%.

Associate Software Developer — 07/2021 – 12/2022
Fronesis Solutions — *Hyderabad, India*

- Built and maintained scalable backend services using **Spring Boot**, with **GraphQL** reducing API calls by 35%, enhancing application performance, and minimizing server load through more efficient data fetching.
- Deployed scalable microservices on **AWS EC2** using **Docker**, cutting reporting times by 20% via **PostgreSQL** optimization. Secured 50K+ users with **JWT authentication** and ensured reliability with automated testing.
- Developed and maintained a secure **User authentication** service for 50,000+ users, implementing **Log4j** for robust logging and **Error handling**; delivered features with 99% uptime in a fast-paced sprint environment.
- Engaged in Agile development with Scrum implementation, code reviews, and collaborative decision-making.

Machine Learning Intern — 05/2020 – 07/2020
TheSmartbridge — *Hyderabad, India*

- Collaborated with 5-member cross-functional team to design a **Natural language processing (NLP)** framework to extract user opinions from product reviews, enhancing feature-level insights for business intelligence.
- Fine-tuned **Transformer-based language models (BERT)** to classify user feedback across multiple categories.
- Implemented advanced text preprocessing pipelines using **spaCy** and **NLTK** for tokenization, lemmatization, and syntactic parsing, enhancing contextual understanding by 25% and reducing model drift during retraining cycles.

Projects

API Hub | *Spring Boot, Java, MySQL, JavaScript, JSP*

- Built a full-stack API management platform using **Spring Boot, Java, MySQL** and **JavaScript** to organize, search, and preview 300+ internal APIs with real-time filtering, metadata tagging, and usage examples.
- Improved system performance with **Redis caching** and **optimized SQL queries**. Integrated **JUnit** and **Mocha tests**, reaching 92% coverage and enabling support for 1500+ concurrent users.

Smartventory | *Python, Flask, React, PostgreSQL*

- Pioneered an inventory management system using **React, Flask**, and **PostgreSQL** to manage 5,000+ SKUs across multiple warehouses, with low-stock alerts and automated restock triggers, reducing inventory errors by 60%
- Developed interactive, real-time dashboards using **Plotly** and **Dash** to visualize key inventory metrics such as sales velocity, stock turnover, and trend analysis to support data-driven decisions for warehouse managers.