MANI KANTA LOKESH BURAGADDA

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SUMMARY

Software Engineer with 3+ years of experience in **Python**, **JavaScript**, **SQL**, and cloud-based software development. Graduated with a **Master's in Computer Engineering** from **Iowa State University**. Proven ability to design, build, and deploy **scalable, secure applications** using modern frameworks and cloud infrastructure. Strong background in **API development**, system design, and backend engineering, with hands-on experience in **DevOps**, CI/CD pipelines, and **microservices architecture**. Adept at writing high-quality, maintainable code, and collaborating in agile teams to deliver impactful software solutions.

EXPERIENCE

Software Engineer & Data Science Co-op   May 2024 – March 2025
Optimum   Ames, USA (Remote)

- Architected and implemented 5+ Python microservices with FastAPI, exposing RESTful endpoints for internal and external consumers.
- Containerized services using Docker and orchestrated deployments via GitHub Actions CI/CD pipelines.
- Designed and maintained PostgreSQL schemas, writing complex joins and indexed queries to support 1M+ record operations.
- Automated unit and integration testing with pytest, raising code coverage to 85%.
- Integrated application logging and monitoring using AWS CloudWatch and Grafana dashboards.
- Refactored legacy monolithic scripts into modular, reusable Python packages, reducing code duplication by 40%.
- Developed a feature toggle system to safely rollout new functionality without downtime.
- Built a real-time event-driven ETL orchestrator using Azure Data Factory and Azure Functions.
- Collaborated in Agile ceremonies—sprint planning, daily stand-ups, retrospectives—driving a 20% increase in sprint throughput.
- Mentored two junior engineers on best practices for API design, code reviews, and Git workflows.
- Implemented OAuth2-based authentication and RBAC in critical services to enforce security standards.
- Optimized service performance by introducing Redis caching layers, reducing average response times by 35%.
- Authored comprehensive technical documentation and OpenAPI specs, improving cross-team onboarding.

Research Assistant - Software Engineering   March 2023 – April 2024
Iowa State University, Ames   Ames, USA

- Designed modular microservice architecture in Flask to serve ML inference for 65K+ medical images.
- Exposed BERT/GPT transformer models via FastAPI endpoints, ensuring sub-200ms inference latency.
- Containerized and deployed services to AWS Lambda within a VPC for secure, scalable hosting.
- Automated CI/CD using GitHub Actions to build Docker images, run tests, and deploy to Azure App Services.
- Developed Python SDK for internal teams to interact with ML APIs, accelerating development cycles.
- Integrated Sentry for real-time error tracking and uptime monitoring with 99.9% availability.
- Wrote end-to-end tests using Postman/Newman to validate critical API workflows.
- Optimized preprocessing pipelines with Apache Spark, reducing data ingestion time by 40%.
- Enforced coding standards with Black and Flake8, maintaining a consistent code style.
- Documented system design, deployment guides, and API references to support future research commercialization.

Research Assistant – Software Developer   January 2022 – December 2022
Presidency University   Bangalore, India

- Architected and developed Flask-based web applications for academic reporting, serving 200+ users.
- Designed normalized MySQL databases and wrote stored procedures to support dynamic dashboards.
- Built responsive front-end components with Bootstrap and Chart.js for interactive data visualization.
- Implemented JWT authentication and CSRF protection to secure user sessions.
- Automated build-and-deploy process to Heroku via GitHub Actions, reducing manual deployment time by 60%.
- Developed unit and functional tests with unittest and Selenium to ensure application stability.
- Monitored application performance metrics and tuned SQL queries to reduce page load times by 30%.
- Collaborated with stakeholders to translate requirements into technical specifications.
- Mentored interns on Python best practices and version-control workflows.
- Authored API documentation and user guides to streamline application adoption.

Database Software Engineer Jun 2020 – Jan 2022
Dot Com Generations Bangalore, India

- Developed RESTful APIs in Flask and FastAPI, integrating with PostgreSQL and MongoDB backends.
- Designed normalized and de-normalized schemas, writing complex SQL queries and aggregation pipelines.
- Containerized database services with Docker and deployed to AWS Fargate for zero-downtime updates.
- Automated database migrations using Alembic and CI/CD pipelines in GitHub Actions.
- Engineered real-time ETL pipelines with Apache Airflow, processing millions of log events per day.
- Implemented Redis caching for session management and hot-data access, boosting throughput by 50%.
- Integrated monitoring dashboards via Prometheus and Grafana to track DB metrics and query performance.
- Conducted stress and load testing with Locust, validating system resilience at 10k reqs/sec.
- Implemented row-level security and encryption to comply with data protection regulations.
- Orchestrated cross-region database replication for disaster recovery, maintaining 99.9% uptime.
- Refactored legacy stored procedures into optimized functions, reducing execution time by 60%.
- Collaborated with front-end and DevOps teams to design end-to-end features and deployment strategies.
- Mentored junior engineers on database optimization, API design, and microservice integration.
- Authored internal tooling for automated backups, health checks, and schema versioning.

Technical Skills

- **Programming Languages**: **Python** (pandas, NumPy, scikit-learn, TensorFlow, PyTorch), **SQL** (T-SQL, PostgreSQL, MySQL), R, DAX, JavaScript
- **Machine Learning & AI**: Supervised Learning, Deep Learning (CNN, LSTM), NLP (BERT, Transformers), Feature Engineering, Time Series Forecasting, Model Evaluation (AUC, BLEU, F1), Hyperparameter Tuning, MLflow
- **Data Engineering & Pipelines**: ETL/ELT Pipelines, Apache Spark, Databricks, Apache Airflow, AWS Glue, Azure Data Factory, AWS S3, Azure Blob Storage, Data Quality Monitoring, Star & Snowflake Schema Modeling
- **Business Intelligence & Visualization**: Power BI (DAX, Power Query, Data Modeling, KPI Dashboards), Tableau, Excel (PivotTables, Macros, Power Query), EDA, Report Automation
- **Databases & Cloud Platforms**: SQL Server, PostgreSQL, MySQL, Snowflake, AWS (EC2, S3, RDS, Redshift), Azure (Synapse, Blob Storage, Data Factory)
- **Web & API Development**: Flask, FastAPI, REST APIs, HTML, CSS, CMS Integration, GitHub, Docker, Agile/Scrum
- **DevOps & Monitoring**: Docker, GitHub Actions, CI/CD Pipelines, Nginx, Prometheus, Grafana
- **Big Data & Distributed Systems**: Hadoop, Kafka, Airflow, Databricks
- **Tools & Collaboration**: Git, JIRA, VS Code, Technical Documentation, Stakeholder Engagement

EDUCATION

Master of Science in Computer Engineering GPA : 3.75/4.00 January 2023 - May 2025
Iowa State University Ames, USA