

Venu Vardhan Reddy Tekula

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SUMMARY

- **Experienced Software Engineer** with over **5 years** of professional experience in software development and system architecture, specializing in building robust and scalable backend systems.
- **Expertise in Backend Development:** Proficient in **Python, Java, and Go**, with extensive experience in frameworks like **Django, Flask, FastAPI, and Spring Boot**. Skilled in designing and implementing **RESTful APIs, GraphQL endpoints, and microservices architectures** that improve system scalability by up to 35%.
- **Cloud & DevOps Proficiency:** Deep knowledge of **AWS** services including **EC2, IAM, SQS, SNS, Lambda, S3, RDS, and CloudFormation**. Experienced in **Docker and Kubernetes** for containerization and orchestration, and adept with **CI/CD pipelines** using **Jenkins, GitHub Actions, and Terraform**, leading to deployment efficiency gains of over 30%.
- **Data & Database Management:** Skilled in both **SQL and NoSQL** databases like **MySQL, PostgreSQL, and MongoDB**, with a strong focus on database optimization and query performance improvements of up to 40%. Experienced in handling big data using **Apache Kafka, Spark, and Elasticsearch/OpenSearch**.
- **Strong Leadership and Collaboration Skills:** Led teams of up to 5 developers in **Agile Scrum** environments, achieving 95% on-time project delivery. Effective communicator with a proven ability to work cross-functionally, enhancing user engagement by 25% and reducing production bugs by 30% through collaborative efforts.

EXPERIENCE

Software Engineer, NYU Tandon School of Engineering

Sep 2022 - May 2024

- Led backend development for the FloodNet project, building **RESTful APIs** using **Python (Flask)** to collect and analyze real-time data from **sensors** across NYC for flood monitoring.
- Integrated **AWS** services such as **EC2, Lambda, and S3** to deploy and scale data processing tasks, reducing system downtime by 20%. Optimized application performance by profiling and refactoring code, leading to a 15% reduction in CPU usage.
- Deployed applications in a microservices architecture using **Docker, Kubernetes, and Terraform**, achieving a 30% increase in deployment efficiency.
- Implemented full-stack features using **React, HTML5, and CSS3** for **frontend visualization**, enhancing user engagement by 25%.
- Designed and optimized **PostgreSQL** database schemas to handle over 10 million records of sensor data, improving query performance by 40%.
- Implemented real-time data streaming pipelines using **Apache Kafka** and **Spark**, enabling immediate flood alerts to city officials.
- Developed automated testing suites with **PyTest**, and **Selenium**; increasing code coverage to 85% and reducing production bugs by 30%.
- Employed **ELK Stack (Elasticsearch, Logstash, Kibana)** for monitoring and logging, improving system performance by 15%.
- Led a team of 5 developers in an **Agile Scrum** environment, resulting in 95% on-time project delivery.
- Optimized frontend performance with **React** optimization techniques, reducing page load times by 50%.

Software Developer, BeeHyv Software Solutions

Oct 2020 - Jul 2022

- Contributed to the development of Bahmni, an **open-source** hospital management system, by building highly **scalable backend services** using **Java (Spring Boot)**.
- Developed **RESTful APIs**, enabling seamless integration between **frontend applications and backend services**.
- Worked with **MySQL** and **MongoDB** to optimize relational and **NoSQL** databases, improving query performance by 25%.
- Implemented **caching** mechanisms using **Redis**, reducing server load and improving response times by 20%.
- Integrated **AWS** services like **RDS** and **CloudFormation**, reducing infrastructure setup time by 50%.
- Implemented **Docker** containerization and **Kubernetes** orchestration, increasing system scalability by 25%.
- Wrote unit and integration tests using **JUnit** and **Mockito**, increasing test coverage to 90%.
- Automated deployment processes with **Jenkins** pipelines and **Ansible**, reducing manual deployment errors by 70%.
- Collaborated with frontend teams using **React** and **Angular**, ensuring API compatibility and enhancing user experience by 30%.
- Migrated legacy systems to a **microservices architecture**, improving maintainability and scalability by 35%.

Backend Developer, Bitergia

Oct 2019 - Sep 2020

- Developed and maintained **backend systems** for GrimoireLab and Bitergia Analytics using **Python** and **Django**, handling data collection to create analytical dashboards.
- Implemented complex querying and indexing with **OpenSearch/Elasticsearch** and **PySpark**, improving data retrieval times by 35%.
- Designed and implemented **data pipelines** processing over 1TB of data weekly, enhancing data throughput by 50%.
- Automated CI/CD pipelines with **GitHub Actions** and **Jenkins**, resulting in a 50% reduction in release and deployment errors.
- Utilized **Docker** and **Docker Compose** for development environments, reducing setup time for new developers by 60%.
- Contributed to **open-source projects**, collaborating with international teams and adhering to community coding standards.
- Assisted with **DevOps** processes using **Terraform**, automating **infrastructure provisioning and code deployments**.
- Documented APIs and **data models**, improving maintainability and facilitating knowledge transfer.
- Implemented **security best practices** in backend services, reducing vulnerabilities by 30%.
- Employed **logging and monitoring** tools to identify and fix bottlenecks, leading to a 20% improvement in system efficiency.

SKILLS

Programming Languages: Python, Go, Java, JavaScript, TypeScript, Bash, SQL

Backend Technologies: Django, Flask, FastAPI, Spring Boot, Express, REST, GraphQL, gRPC, Redis, Nginx, Apache Spark, PySpark

Databases: MySQL, PostgreSQL, MongoDB, Elasticsearch/OpenSearch

Frontend Technologies: HTML5, CSS3, JavaScript ES6+, Bootstrap, Material UI, React.js, Vue.js, Vuetify, Angular

Cloud Services: Amazon Web Services (EC2, Lambda, DynamoDB, CloudFormation, API Gateway, CloudWatch, IAM, etc.)

CI/CD & DevOps: Jenkins, GitHub Actions, GitLab CI, Docker, Kubernetes, Terraform, Ansible, ELK Stack, Prometheus, Grafana

System Design: Architectural Patterns, Scalability & High Availability, Fault Tolerance & Resilience, API Design, Automation

Version Control & Collaboration Tools: Git, GitHub, GitLab, Bitbucket, Jira, Trello, Confluence

Testing & Quality Assurance: PyTest, unittest, JUnit, Mockito, Mocha, Jest, Automation Testing, End-to-End Testing, Selenium

Other Tools & Technologies: Message Brokers (Apache Kafka, RabbitMQ), Data Visualization (Kibana), Secure coding standards.

Machine Learning & Data Science: NumPy, Pandas, scikit-learn.

Soft Skills: Team Leadership, Communication, Problem-Solving, Adaptability, Collaboration

EDUCATION

New York University, Tandon School of Engineering

Aug 2022 - May 2024

Master of Science in Computer Science

GPA: 3.9/4.0

ACHIEVEMENTS

- Selected as part of top 4% to contribute to the Amazon OpenSearch Project and receive mentorship as part of OSCI 2023.
- Chosen as a student developer for Google Summer of Code 2020, contributing to the CHAOSS Project under the Linux Foundation.