Harsha Boddeti

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Summary

Detail-oriented Software Engineer with 3+ years of experience in web application development, data analytics, and cloud-based solutions. Proven track record in designing and deploying scalable systems using Python (Django, Flask), .NET, Angular, and AWS. Strong understanding of CI/CD pipelines, version control, and Agile methodologies. Adept at collaborating across cross-functional teams to deliver high-quality software that drives business impact.

Technical Skills

Programming Languages: Python, JavaScript, TypeScript, C#, SQL
Frameworks & Libraries: Django, Flask, React, Angular, .NET Core, Angular Material
Cloud & Infrastructure: AWS (EC2, S3, Lambda, ECS), Azure DevOps, Docker, Terraform, CloudFormation
Databases: SQL Server, PostgreSQL, MySQL, MongoDB
DevOps & CI/CD: Jenkins, GitHub Actions, Azure Pipelines, Git, Docker, Container Orchestration
Data Engineering & Analytics: ETL Pipelines, Hadoop, Power BI, Pandas, Data Transformation, REST APIs

Work Experience

Software Engineer *May 2024 – Present*
National Library of Medicine | Virginia, USA

- Collaborating on NLM's biomedical data ingestion platform that processes and curates large volumes of clinical and research information uploaded by various healthcare and research institutions through secure pre-signed S3 URLs.
- Building and maintaining backend services using Python (Django, Flask) to validate, transform, and standardize biomedical data before it is processed into the Unified Medical Language System (UMLS) for research and public access.
- Implementing serverless microservices on AWS Lambda and containerized APIs on Fargate, integrated via Application Load Balancers and routed through CloudFront distributions (e.g., `/api.ncbi.*`, `/api.research.*`) for high availability and controlled access.
- Designing event-driven workflows that consume AWS GuardDuty security alerts—automatically quarantining malicious or non-compliant files in isolated S3 buckets and ensuring all data at rest and in transit is encrypted (KMS + HTTPS/TLS).
- Collaborating with the infrastructure and security teams to define IAM roles and bucket policies aligned with HIPAA and NIST standards, ensuring proper least-privilege access and compliance with federal healthcare data regulations.
- Streamlining deployment pipelines using Jenkins and GitHub Actions to automate code testing, infrastructure provisioning, and API deployment, reducing manual release effort by 40% and improving delivery predictability across multiple client environments.

Software Engineer *Jan 2022 – Jun 2023*
TATA Consultancy Services | Hyderabad, India

- Worked on the **DaVita Nautilus** healthcare insurance platform that manages dialysis patient eligibility, coverage verification, and claims processing for clinics across the United States.
- Developed and enhanced web modules using .NET and Angular for claims submission, policy validation, and patient data tracking, improving workflow efficiency for over 10,000 internal users.
- Automated deployment and integration pipelines using Azure DevOps and Git version control to streamline release management, reducing manual deployment effort by 30% and improving delivery reliability.
- Containerized and deployed microservices for claims and payments on AWS ECS, enhancing scalability, system modularity, and improving transaction throughput by approximately 30%.
- Collaborated with QA teams and onshore healthcare domain experts in Agile sprints to ensure HIPAA-compliant implementation of insurance business rules and accurate claims adjudication across modules.

Data Analyst Intern *Feb 2021 – Aug 2021*
Cognizant Technology Consulting | Bangalore, India

- Designed and implemented ETL pipelines using Python and SQL to process large datasets, enhancing data accuracy and supporting analytics-driven decisions across teams.
- Improved big data workflows with Hadoop for large-scale data jobs and automated ingestion via S3 and REST APIs, reducing job execution time by 40%.
- Built interactive Power BI dashboards and automated recurring reports with Python scripts, eliminating manual effort and accelerating executive reporting cycles.

Projects

Smart Vision Assistant for Visually Impaired Users *Python, OpenCV, YOLOv8, PyTorch, Flask/FastAPI, AWS S3/EC2, React, Docker*

- Built an AI-powered real-time vision assistant that analyzes mobile/wearable camera footage to detect objects, obstacles, and traffic cues, providing audio-based navigation and hazard alerts for visually impaired users.
- Implemented real-time object detection and fast-approaching vehicle prediction using YOLOv8 and motion analysis, enabling hands-free guidance with scene understanding of people, vehicles, and signals.
- Designed an end-to-end, low-latency system with modular inference APIs, cloud/edge deployment, and analytics logging, delivering safer navigation through timely warnings, path suggestions, and crossing assistance.

Education

- **University of North Texas**, Denton, TX M.S. in Information Systems and Technology
- **Raghu Engineering College**, Visakhapatnam, India B.Tech in Computer Science and Engineering

Certifications: NodeJS Complete guide, Angular Complete Guide, AWS Solutions Architect Associate, DevOps Beginner to Advanced