

SHIVA REDDY

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Backend Engineer with 4+ years building scalable platforms, APIs, and production systems. Deep expertise in Python, Go, cloud infrastructure, and building reliable services that handle high throughput. Proven track record delivering backend infrastructure with measurable business impact including \$400K+ in cost savings and significant efficiency improvements.

CORE TECHNICAL SKILLS

Languages: Python, Java, JavaScript/TypeScript, C#, Rust, C++, Go

Testing & QA: Test-Driven Development (TDD), Unit Testing, Integration Testing, End-to-End Testing, Automated Testing Frameworks, Quality Assurance Processes, Error Detection Systems

Backend & APIs: Spring Boot, FastAPI, Flask, Django, RESTful APIs, gRPC, Microservices

Frontend: React, Redux, TypeScript, JavaScript

Databases: PostgreSQL, MongoDB, DynamoDB, Supabase, Redis

Cloud & DevOps: AWS (EC2, S3, Lambda, CloudWatch), GCP, Docker, Kubernetes, CI/CD, Jenkins, Git, Azure DevOps

Testing Tools: Jest, Pytest, JUnit, Selenium, Postman, Test Automation Frameworks

System Design: Microservices Architecture, Scalable Systems, ETL Pipelines, Monitoring & Logging

Practices: Agile Development, Test-Driven Development, Code Review, Object-Oriented Programming

PROFESSIONAL EXPERIENCE

EAGLE CONSTRUCTION OF VA | Richmond, VA

JAN 2021 - PRESENT

Developer & ACT Project Manager

EK24 - Kitchen Design Automation Platform:

- Built production-grade design automation layer on top of Autodesk Revit using C#, .NET, Windows API, and Revit API (supporting versions 2018-2026).
- Developed custom Revit add-ins with intuitive UI that enables interior designers to produce construction drawings, schedules, and quantity takeoffs through simplified annotation-based workflows, eliminating need for deep Revit expertise.
- Eliminated \$130K in annual third-party software licensing costs, achieved 95%+ adoption through a comprehensive training program, and transformed team capability by teaching Revit fundamentals and automation best practices.

AQT - Automated Quantity Takeoff System

- Developed Revit add-in automation system using C#, .NET, and Revit API for comprehensive quantity takeoffs, real-time pricing calculations, drafting error analysis, and trade-specific waste factor calculations.
- Extended AQT with cloud-based processing using Autodesk Forge API to extract data from Revit models, perform calculations on cloud infrastructure, and automatically generate and email reports to project managers.
- Reduced project timelines by 2 weeks per project and delivered \$400K+ in cumulative savings. Reduced estimating team workload by 30%, achieved 100% accuracy eliminating manual errors, and enabled scalable processing of 300+ active construction projects with zero-downtime deployment.

Nexus - Full-Stack Platform Development

- Architected and deployed enterprise document management and project tracking platforms using Python/FastAPI backend, React/TypeScript frontend, PostgreSQL/MongoDB databases, and AWS cloud infrastructure.

- The system handles 10K+ construction documents across 300+ active projects with real-time collaboration, cross-platform access, and automated version control.
- Reduced document processing time by 60% (saving \$150K annually), improved compliance audit success rate from 78% to 99%, and mentored 2 junior developers through a full development lifecycle.

Cross-Functional Collaboration

- Worked closely with engineers, designers, project managers, and field technicians to understand design workflows, identify pain points, and develop technical solutions aligned with business goals. Conducted user research, gathered requirements, and iterated based on feedback cycles. Led training sessions and onboarding for new tools, driving adoption across teams.

Infrastructure & DevOps

- Built internal tools including server storage maintenance application (.NET/WPF) with multithreaded architecture for backup management, and implemented CI/CD pipelines using Docker/Kubernetes on AWS and GCP, reducing deployment times by 40%.

TESLA | Giga Factory, NV

MAY 2020 - AUGUST 2020

VDC Engineering intern

- Developed C# automation plugins and PyRevit scripts for Revit model analysis and workflow management, improving operational efficiency for Tesla's Fremont manufacturing facility.
- Built automated validation processes to ensure model quality and compliance with engineering standards, reducing manual QA time by ~20%
- Collaborated with cross-functional teams including construction engineers, facilities managers, and software developers to understand operational requirements and deliver technical solutions.

EDUCATION

UNIVERSITY OF FLORIDA

DEC 2020

Masters of Science in Construction Engineering Technology

Honors: Sigma Lambda Chi (SLC) Construction Honor Society – Epsilon Chapter

Master's Thesis: Algorithmic Design of Building Facades – Developed parametric design processes and GUI-based tools for real-time parameter manipulation, demonstrating expertise in computational design and BIM workflows.

PERSONAL PROJECTS & CONTINUOUS LEARNING

Systems Programming:

- Built HTTP server in C (handles concurrent connections, HTTP/1.1 protocol)
- QR code decoder in C++ (computer vision + error correction)
- Redis-like in-memory database in C (implements RESP protocol and core data structures)

Competitive Programming:

- Extensive practice in algorithmic problem-solving and optimization through competitive programming (Codeforces, LeetCode), strengthening foundation in data structures, algorithms, and efficient code design

Current Learning:

- Expanding expertise in distributed systems architecture with Elixir and functional programming patterns
- Active GitHub contributor with public repositories demonstrating systems programming, algorithm implementations, and full-stack development skills
- Actively exploring emerging technologies and best practices in software architecture and testing methodologies