Harshwardhan Patil

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Overview

Full-Stack Engineer with 3+ years' experience designing and delivering **scalable, high-performance systems** across frontend, backend, and cloud. Skilled in modular architectures, and CI/CD automation on AWS. Proven record of delivering frequent, stable production releases, mentoring junior engineers, and aligning implementations with clean architecture and system design principles.

Education

University of Texas at Arlington *Expected May 2026*
Master's in Software Engineering

- Coursework: System Design, Secure programming, Software Testing, Cloud Computing, AI/ML with Python, Distributed Systems

Technical Skills

Languages: TypeScript, JavaScript, Java, Python, SQL, C/C++

Frontend: Angular (CLI, Material, RxJS), D3.js, HTML5, CSS3, Route Guards, Component Reusability, Accessibility (ARIA)

Backend: Spring Boot, Spring Security, Spring Data JPA, REST APIs, DTOs, JWT-based authentication, Clean Architecture

Cloud & DevOps: AWS (EC2, ECS, S3, RDS), Docker, Jenkins, GitHub Actions, GitLab CI/CD, Spinnaker, Terraform, Nginx

Databases: PostgreSQL, MySQL, MongoDB, Redis, Prisma ORM

Testing: Jasmine, JUnit, PyTest, SonarQube, Postman

Security: JWT authentication, RBAC, HTTPS/TLS, CORS, CSRF/XSS protection, secure API design, input validation, Linux access control, least-privilege principles

Collaboration: Agile (Scrum, Sprint Planning), Mentoring

Working Knowledge: Apache Kafka, Kubernetes, DynamoDB

Professional Experience

Software Engineer, Clarivate Analytics – Bangalore, India *Aug 2023 – Aug 2024*

- Delivered reusable Angular modules and Spring Boot APIs for reporting, reducing duplicate code by 80%.
- Refactored legacy modules into clean, modular architectures, lowering long-term maintenance costs.
- Optimized PostgreSQL schemas and queries, reducing latency by 40% for large-scale analytical reports.
- Automated CI/CD pipelines using Docker, Jenkins, and Spinnaker, deploying 50+ releases with zero rollbacks.
- Designed and enforced secure authentication using JWT and Spring Security, strengthening access control across services.
- Mentored 2 junior engineers through pair programming and code reviews, doubling sprint throughput.

Associate Software Engineer, Clarivate Analytics – Bangalore, India *Aug 2021 – Jul 2023*

- Built Angular charts and reusable table components integrated with Spring Boot APIs for advanced search and reporting features.
- Bootstrapped an Angular frontend application with Dockerized CI/CD pipelines, enabling automated builds and AWS deployments.
- Standardized reusable frontend modules adopted across 5+ teams, reducing onboarding time by 50%.
- Optimized PostgreSQL queries and indexing strategies, improving data retrieval performance by 30%.
- Implemented secure authentication and request-handling mechanisms (JWT, CORS, CSRF protection), along with input validation standards.
- Increased test coverage to 90%+ using Jasmine and JUnit, reducing production defects by 25%.
- Deployed containerized applications to AWS ECS/EC2 with hardened security group configurations.

Projects

Employee Management System (EMS) *Dec 2024 – Nov 2025*
Enterprise-grade full-stack employee management platform with real-time metrics and automated cloud deployment.
Tools: Spring Boot, Angular, PostgreSQL, AWS (EC2, RDS, S3, Secrets Manager), Docker, GitHub Actions, Jenkins

- Engineered RESTful Spring Boot APIs supporting multi-entity management (employees, departments, projects, tasks, locations) with pagination, filtering, and search.
- Developed a unified Angular frontend with responsive UI and integrated dashboard metrics.
- Architected an Nginx API gateway to serve the frontend and proxy backend services.
- Containerized application services using Docker Compose for consistent development, testing, and production environments.
- Implemented end-to-end CI/CD pipelines using GitHub Actions and Jenkins to automate builds, testing, Docker image publishing, and AWS deployments.
- Deployed the backend on AWS EC2 with PostgreSQL hosted on AWS RDS, secured using AWS Secrets Manager and firewall rules.
- Integrated automated test suites into the CI pipeline to enforce code quality and reduce regressions.

Battle Arena – Multiplayer Artillery Game Platform *May 2024 – Present*

A browser-based artillery game platform focused on modular game-engine architecture, terrain-aware physics, and extensible multiplayer foundations.

Tools: Angular, Phaser 3, Spring Boot, Node.js, MongoDB, WebSockets, Docker, AWS

- Designed modular backend services (authentication, matchmaking, leaderboard, gameplay orchestration) with clear separation between engine logic and platform services.
- Integrated Phaser 3 with Angular 17 using a standalone component architecture, implementing polygon-based terrain boundaries, slope-aware tank movement, and collision-constrained navigation.
- Built real-time communication primitives using Node.js and WebSockets to support turn-based multiplayer synchronization and future matchmaking workflows.
- Containerized frontend, game engine, and backend services using Docker Compose, enabling reproducible local development and cloud-ready deployment on AWS.

AI-Powered Personal Finance Manager *Feb 2025 – April 2025*

A full-stack personal finance platform leveraging real banking data and AI-driven insights for budgeting, expense analysis, and financial planning.

Tools: Flask, Streamlit, Redis, Plaid API, Docker, AWS

- Designed and developed a full-stack personal finance system integrating live banking data via Plaid APIs.
- Built backend APIs in Flask for transaction ingestion, categorization, budgeting logic, and analytics.
- Implemented AI-driven insights including expense trend analysis, spending predictions, and personalized financial recommendations.
- Designed interactive dashboards and reports for transaction analytics, budget tracking, and alerts.
- Containerized services using Docker and planned cloud deployment on AWS for scalability and production readiness.