

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 on AWS. Proven record of stable production releases, and building systems aligned with clean architecture and robust system design principles.

Education

University of Texas at Arlington

Expected May 2026

Master's in Software Engineering

- System Design, Secure Programming, Software Testing, Cloud Computing, Machine Learning, Distributed Systems

Technical Skills

Languages: TypeScript, JavaScript, Java, SQL

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

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, Spinnaker, Nginx

Databases: PostgreSQL, MySQL, MongoDB, Redis

Testing: Jasmine, JUnit, SonarQube, Postman

Security: JWT authentication, RBAC, HTTPS/TLS, CORS, CSRF/XSS protection, secure API design, input validation, Secure deployment practices and least-privilege access

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 – Real-Time Multiplayer 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 data-driven insights including expense trend analysis, basic forecasting, and rule-based 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.