

# Harshwardhan Patil

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## Overview

**Full-Stack Developer** with 3+ years' experience architecting reusable frontend modules, robust backend REST APIs, secure auth flows, and scalable cloud deployments. Proven track record in clean architecture, CI/CD automation, mentoring engineers, and delivering production-ready systems with zero downtime.

## Education

**University of Texas at Arlington**

*Expected May 2026*

*Master's in Software Engineering*

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

## Technical Skills

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

**Frontend Development:** Angular (CLI, Material, RxJS), HTML5, CSS3, Responsive Design, Lazy Loading, Routing Guards, Component Reusability, D3.js

**Backend Development:** Spring Boot, Spring Security, Spring JDBC, Spring Data JPA, Node.js, Flask, RESTful API Design, Microservices, Database Migration (AWS Aurora), Apache Kafka (basic), DTO Pattern, JWT Authentication, Clean Architecture

**Architecture & System Design:** System Design, High-Level Design (HLD), Low-Level Design (LLD), SOLID Principles, Domain-Driven Design (DDD), Event-Driven Architecture (EDA), Modular Monoliths, MVC, UML (Class, Sequence, Activity Diagrams)

**DevOps & Cloud:** AWS (EC2, ECS, S3, RDS, Lambda, Aurora), Docker, Docker Compose, Kubernetes (basic), Jenkins, GitHub Actions, GitLab CI/CD, Spinnaker, Terraform, Nginx, Apache HTTP Server

**Databases & Tools:** PostgreSQL, MySQL, MongoDB, Amazon DynamoDB, Redis, pgAdmin, DBeaver, MongoDB Compass

**Testing & Debugging:** Jasmine, JUnit, PyTest, SonarQube, SonarQube Cloud, Postman Tests, Chrome Dev Tools

**Security & Authentication:** Spring Security, JWT-based Authentication, OAuth 2.0 (basic), CORS, HTTPS, CSRF Protection, Role-Based Access Control (RBAC)

**Developer Tools:** Git, VS Code, IntelliJ IDEA, Jira, Postman, Notion, Figma, Draw.io, Mermaid AI

**CLI & Productivity Tools:** Tmux, Vim, Zsh, CLI Debugging, Homebrew

**Collaboration & Leadership:** Agile, Scrum, Sprint Planning, Mentoring, DevOps Advocacy, Technical Presentations, Documentation, Continuous Learning and Adaptability

## Professional Experience

**Software Engineer, Clarivate Analytics – Bangalore, India**

*Aug 2023 – Aug 2024*

*Full-Time*

- Engineered and delivered reusable Angular modules and Spring Boot REST APIs for dynamic tables, filters, charts, and export services, enabling end-to-end feature delivery with consistent performance and maintainability.
- Designed secure backend authentication flows using JWT and Spring Security, integrated with Angular routing guards for seamless session management and RBAC.
- Optimized PostgreSQL queries and schema design for heavy data reports, improving data retrieval speeds by 40% and ensuring zero production downtime.
- Containerized full-stack applications with Docker, orchestrated CI/CD pipelines using Jenkins and Spinnaker, and deployed to AWS EC2/ECS for robust cloud scalability.
- Refactored legacy monolithic modules into modular reusable components aligned with Clean Architecture and Domain-Driven Design, reducing maintenance overhead.
- Wrote and maintained unit/integration tests using Jasmine for frontend and JUnit/Postman for backend, achieving 90%+ test coverage and minimizing post-release defects.

- Mentored 2 junior engineers on full-stack best practices, including RESTful API design, frontend state management, and DevOps pipeline configurations.
- Owned 50+ production releases with zero rollbacks, leveraging automated deployment scripts, Terraform infrastructure as code, and clear release documentation.
- Collaborated cross-functionally to support feature enhancements, including tree filters, search result bookmarking, and large data exports for PPT/PDF using forkJoin and streaming APIs.

#### **Associate Software Engineer, Clarivate Analytics – Bangalore, India**

*Aug 2021 – Jul 2023*

##### *Full-Time*

- Developed dynamic Angular charts, reusable table components, and integrated Spring Boot APIs for advanced search and reporting features.
- Bootstrapped full-stack monorepo with Node.js backend and Angular frontend; configured CI/CD pipelines with Bitbucket, Jenkins, and Docker Compose for local and AWS deployments.
- Implemented JWT-based authentication flows, CORS, CSRF protection, and input sanitization, improving security posture and compliance.
- Standardized reusable modules and design patterns, contributing to internal frameworks and documentation adopted across 5+ modules.
- Built and deployed containerized applications to AWS EC2/ECS with secure environment variables and firewall rules.
- Wrote unit tests with Jasmine and JUnit, plus E2E tests with Protractor, achieving 90%+ test coverage and reducing production bugs by 25%.
- Maintained accessibility standards with ARIA roles, semantic HTML, and keyboard navigation; improved Lighthouse scores to 95+.

## **Projects**

### **Battle Arena – Multiplayer Artillery Game Platform**

*May 2024 - Present*

*GitHub · Angular, Phaser 3, Spring Boot, Node.js, MongoDB, WebSockets, Docker, AWS*

- Architected and implemented a full-stack real-time multiplayer game platform inspired by Pocket Tanks, supporting modular player types (tanks, wizards, mechs) and pluggable arena systems.
- Designed a scalable microservices architecture, separating concerns across services: auth-service, user-profile-service, leaderboard-service, matchmaking-service, game-engine-service.
- Integrated Phaser 3 game engine within Angular 17 for smooth turn-based 2D artillery gameplay inside a browser.
- Developed backend with Spring Boot REST APIs for user management and leaderboards, and Node.js + Socket.io services for real-time matchmaking and gameplay physics.
- Used MongoDB for flexible storage of user profiles, match histories, and ranking data, enabling easy schema evolution.
- Containerized all services with Docker, orchestrated via docker-compose, enabling one-command local development and future CI/CD scalability.
- Implemented JWT-based authentication, modular Angular routing, and dynamic UI features like dashboards, player stats, and leaderboards.

### **Better Finance – Hackathon Project (UTA)**

*Hackathon - Mar 2025*

*GitHub · Angular, Flask, Streamlit, PostgreSQL, Plaid API, Docker*

- Developed in a team of 3 during a university hackathon; built a full-stack platform for AI-powered personal finance management.
- Integrated Plaid API for secure bank account linking and real-time transaction syncing.
- Implemented OCR-based invoice processing and financial advice chatbot using AI/ML models.
- Designed Streamlit UI for quick access to account overviews, transaction analytics, and budget alerts.
- Containerized services using Docker for quick deployment and hackathon-scale setup.

### **Employee Management System (EMS)**

*Dec 2024 – Present*

*Spring Boot, Angular, PostgreSQL, AWS, Docker, Jenkins*

- Built robust Spring Boot REST APIs for employee/department management, dashboard metrics, and real-time data filtering (pagination, sorting, dynamic POST queries).
- Deployed PostgreSQL on AWS RDS and backend on AWS EC2 using .env-based secure auth and custom firewall rules.

- Containerized services using Docker and an automated CI/CD pipeline with Jenkins for both frontend (Angular) and backend (Spring Boot).
- Implemented CORS, centralized error handling, and DTO-layered clean architecture.
- Designed and connected metric cards API and department/employee charts (Chart.js).
- Future-proofed system with modular microservice-friendly design, aligning with Clean Architecture patterns.

## Certifications

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AWS Certified Cloud Practitioner – CLF-C02 (2025)

AWS Certified Developer – Associate – DVA-C02 (2025)

AWS Certified Solutions Architect – Associate – SAA-C03 (2025)

Oracle Certified Professional: Java SE 17 Developer – 1Z0-829 (2025)

AWS Skill Builder Badges: Cloud Essentials, Serverless on AWS, Cloud Quest Practitioner, AI Services, ML Basics (2025)