

# Ayush Desai

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## EDUCATION

<b>Master of Science in Computer Science</b>   <i>Northeastern University</i>   <i>Boston, MA</i>	Jan 2023 - Dec 2024
Relevant Coursework: Programming Design Paradigms, Web Development, Algorithms, Cloud Computing	<b>GPA: 3.8/4.0</b>
<b>Bachelor of Engineering in Information Technology</b>   <i>University of Mumbai</i>   <i>Mumbai, India</i>	Aug 2018 - May 2022
Relevant Coursework: Java Programming, Object Oriented Design, DBMS, Operating Systems	<b>GPA: 3.9/4.0</b>

## TECHNICAL SKILLS

**Languages:** Java, C, Python, C++, Go / Golang, JavaScript, SQL, Scala, Bash, Swift, HTML5, CSS  
**Tools:** Linux Administration, Java Spring Boot, JUnit, Mockito, Node.js, Django, pytest, Apache Spark, React, Selenium, Git  
**Databases:** Firebase, MongoDB, MySQL, PostgreSQL, Neo4j  
**DevOps:** Terraform, GitHub Actions, Jenkins, Docker, Maven, Gradle, Datadog, Kubernetes  
**Cloud Computing:** AWS (EC2, ECS, Lambda, SQS, SNS, Route 53, S3, VPC, IAM roles and policies, CloudWatch, RDS)

## PROFESSIONAL EXPERIENCE

<b>Senior Software Engineer</b>   <i>Arul Health</i>   <i>Boston, MA</i>	April 2023 - Present
<ul style="list-style-type: none"><li>Led end-to-end development of the Arul Health mobile app in <b>React Native (Expo, TypeScript)</b> with guarded routes, deep links, and persistent auth, designed for 18.6M cancer survivors.</li><li>Engineered production onboarding using <b>Firebase Auth</b> (Google and Apple OAuth), Firestore profiles, <b>SecureStore</b> key storage, and idempotent <b>Cloud Functions</b>, reducing drop offs by 24% and increasing Day-1 activation by 17%.</li><li>Built a messaging <b>AI companion</b> in <b>Python</b> powered by <b>Gemini</b> with a deterministic state machine, prompt orchestration, safety and PII filters, and context memory in <b>Firestore</b>; delivered via <b>Twilio</b> to over 2,000 users.</li><li>Worked cross functional with clinicians, design, and product to launch PHQ-9 check ins, consent and privacy flows enforced by <b>Firestore security rules</b>, cutting privacy review time by 30%.</li><li>Delivered 60 FPS SVG blob animations using <b>Reanimated</b> and <b>Redash</b>, and set up <b>Crashlytics</b> and CI/CD for faster, safer releases.</li></ul>	
<b>Software Developer Engineer</b>   <i>Papa Dont Preach</i>   <i>Mumbai, India</i>	Jan 2022 - Dec 2022
<ul style="list-style-type: none"><li>Crafted a backend <b>Android</b> inventory system using <b>Java</b>, <b>Jetpack</b>, and <b>Room</b>, managing SKUs across 500+ fashion items with stock reconciliation, variant attributes, and role-based access.</li><li>Improved data retrieval speed by 35% using <b>MVVM</b>, <b>LiveData</b>, and <b>Redis</b>, introducing caching and background sync.</li><li>Enabled QR tracking at 8 checkpoints via <b>ZXing</b> library, automating supply chain flow with scan-to-state transitions, exception tagging, and audit-ready traceability.</li><li>Reduced app build time by 18% by optimizing <b>Gradle</b> configuration and speeding <b>CI/CD</b> feedback cycles through dependency pruning, incremental builds, and parallel tasks.</li></ul>	
<b>Full Stack Developer</b>   <i>Bharat Diamond Bourse</i>   <i>Mumbai, India</i>	Aug 2020 - Dec 2020
<ul style="list-style-type: none"><li>Migrated 52 critical microservices to <b>OpenShift</b>, leveraging <b>Docker</b> and <b>Kubernetes</b> for consistent multi-environment containerization.</li><li>Transformed 15+ microservices with <b>Java Spring Boot</b>, employing <b>CI/CD</b>, <b>TDD</b>, and <b>Selenium</b> for automated quality assurance, reducing defects by 30% and improving performance and reliability by 20%.</li><li>Accelerated SSL security by implementing <b>Venafi SSL Certs</b> and <b>TIAA</b> token-based AUTH with secret management via <b>Vault</b> and <b>Consul</b>, securing all environments and managing 624 certificates.</li></ul>	

## ACADEMIC PROJECTS

<b>Healthify</b>   AWS, Terraform, GitHub Actions, Node.js, PostgreSQL
<ul style="list-style-type: none"><li>Spearheaded secure, scalable <b>AWS infrastructure</b> with VPC, KMS, Security Groups, ELB, Auto Scaling, &amp; Route 53, integrating SNS &amp; Lambda for automated email notifications, enhancing response time by 30%.</li><li>Deployed a health monitoring application on <b>EC2</b> using <b>Node.js</b> &amp; <b>RDS PostgreSQL</b>, achieving 99.99% uptime, and utilized <b>CloudWatch</b> for structured logging &amp; monitoring, cutting incident resolution time by 40%.</li></ul>
<b>Candlestick Chart Pattern Recognition</b>   React, TypeScript, GraphQL, Node.js, CNN, SVM
<ul style="list-style-type: none"><li>Built a <b>React</b> and <b>TypeScript</b> web app to visualize candlestick charts with interactive filters and watchlists, and to recognize 10+ textbook stock patterns using <b>convolutional neural networks</b> and <b>support vector machines</b>.</li><li>Designed <b>GraphQL APIs</b> with Node.js, processing 10K+ stock patterns daily from multiple market data sources.</li><li>Implemented <b>OAuth 2.0</b> authorization with refresh tokens and scoped access for third-party API integrations.</li></ul>

## EXTRACURRICULAR ACTIVITIES

**NSS Volunteer:** Led blood donation drives & taught underprivileged children demonstrating leadership.

**Training and Placement coordinator:** Helped in the placement of 600 students at TSEC, showcasing communication skills.

**IEEE Publication:** Game Engine Architecture and Comparative Study of Different Game Engines, ISBN: 978-1-7281-8595-8