

# Rahul Krishna Pallath

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## SUMMARY

Innovative Software Engineer with 5+ years of experience in building scalable, user-centric web applications and AI-driven solutions using JavaScript, TypeScript, ReactJS, and Generative Adversarial Networks (GANs). Proven expertise in frontend architecture, responsive design, and fairness-aware recommendation systems, with a strong focus on performance, accessibility, and user experience. Skilled in Agile methodologies, CI/CD pipelines, and test-driven development, delivering high-quality solutions for enterprise-level applications. Passionate about mentoring developers and driving multi-year design and architecture decisions.

## EDUCATION

**Texas Tech University**, Lubbock, Texas

Aug 2023 - May 2025

*Master of Science in Computer Science*

**GPA: 3.88**

Relevant Coursework: Enterprise Software Architecture, Machine Learning, Software Development Lifecycle, Database Management and Embedded Systems.

## EXPERIENCE

**Texas Tech University**, Lubbock, Texas

*Research Assistant*

- Designed and developed an **AI-driven educational portal** using **.NET, C#, JavaScript**, and **MySQL**, enabling students to solve coding problems, upload notes, and receive automated evaluations.
- Implemented **SPRC programming** for real-time coding problem evaluation and optimized system performance by **25%** through database indexing and API caching.
- Enhanced learning outcomes for 2,000+ students by integrating professor-uploaded materials and feedback tracking features.

**Mphasis Corporation**, New York, New York

*Associate (Software Development Intern)*

May 2024 – August 2024

- Developed ReactJS and TypeScript components for a banking platform, improving UX and engagement by 20%.
- Integrated third-party APIs using Postman, ensuring seamless communication between frontend and backend systems.
- Gained hands-on experience with CI/CD pipelines and Agile methodologies, contributing to rapid issue resolution.

**Deloitte Consulting**, Bangalore, India

*Technology Consultant*

January 2023 – August 2023

- Developed enterprise-level applications using Angular 14 and ReactJS, improving user engagement by 30% through optimized REST API integration.
- Designed and implemented responsive, cross-platform interfaces for 50k+ users, ensuring seamless user experience across devices.
- Created reusable, testable components using TypeScript and Angular, reducing development time by 35%.
- Collaborated with UX designers and product managers to translate wireframes into functional, pixel-perfect interfaces.
- Conducted unit testing using Jest and Jasmine, reducing QA-reported defects by 40%.

*Business Technology Analyst*

August 2020 – December 2022

- Built client-facing applications with responsive design, ensuring accessibility and compliance with ADA standards.
- Developed self-contained, reusable components using ReactJS and TypeScript, enhancing maintainability and scalability.
- Implemented caching strategies to optimize application performance, reducing load times by 20%.
- Mentored junior developers on frontend best practices and Agile workflows, fostering a culture of continuous learning.

**Freelance Developer, Kerala, India**

*Point of Sale (POS) System Developer*

- Built a real-time order management system using Angular and TypeScript, reducing kitchen errors by 60%.
- Containerized applications using Docker and deployed via NGINX, reducing deployment errors by 50%.

## SKILLS

- Frontend:** JavaScript (ES6+), TypeScript, ReactJS, Angular, HTML5, CSS3, SASS, Bootstrap, jQuery, AJAX, JSON, XML
- Frameworks/Libraries:** React Native, RxJS, Node.js, NPM, Maven
- Testing:** Jest, Jasmine, Selenium, Karma
- AI/ML:** Generative Adversarial Networks (GANs), Decomposed Adversarial Learning, Neural Networks, TensorFlow, PyTorch
- Backend/Integration:** Java, Spring Boot, REST APIs, GraphQL, MySQL

- **Tools:** Git, Docker, Jenkins, Postman, Figma
- **Methodologies:** Agile/Scrum, CI/CD, Test-Driven Development (TDD)

## PROJECTS

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### Enterprise-Level Front-End Application

- Tech Stack: Angular, TypeScript, HTML5, CSS3, SASS, Bootstrap, REST APIs
- Developed and optimized an enterprise-level UI application, ensuring responsive design and ADA compliance.
- Implemented caching strategies and authentication/authorization mechanisms, improving performance and security.
- Collaborated closely with UX designers to conduct user research and design complex UX flows, resulting in a 15% increase in user satisfaction.

### Movie Ticket Booking System

- Tech Stack: Angular 15, MySQL, Spring Boot, HTML/CSS, REST APIs
- Designed a responsive UI with Angular Material, enabling real-time seat selection and payment processing.
- Optimized backend performance using Java/Spring Boot, achieving sub-second API response times during peak traffic.
- Focused on consumer-grade UI/UX principles, ensuring a seamless experience for end-users.

### Fairness-Aware News Recommendation System

- Tech Stack: Python, TensorFlow, PyTorch, GANs, Decomposed Adversarial Learning
- Developed a fairness-aware news recommendation system using Generative Adversarial Networks (GANs) to mitigate bias in personalized news recommendations.
- Implemented Decomposed Adversarial Learning and Orthogonality Regularization to create bias-free user embeddings, ensuring fair and diverse content recommendations.
- Achieved a 20% improvement in fairness metrics by reducing bias related to sensitive user attributes like gender.
- Integrated data visualization using D3.js to provide insights into recommendation fairness, improving transparency for stakeholders.

## CERTIFICATIONS

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Angular Certification (Udemy), Complete Frontend Developer(Udemy), Responsive Web Design (freeCodeCamp), Java Certification(Oracle), Salesforce JavaScript Developer I, Complete Python Development(Udemy), Spring boot developer(Mphasis Xpand), Introduction to AWS(Udemy).