

# Adharsh P Ajayakumar

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## PROFILE

Full-stack Software Engineer with hands-on experience building scalable SaaS applications using React, Node.js, and PostgreSQL. Experienced in designing real-time systems for concurrent users, optimizing database performance, and integrating AI features using Google Gemini. Strong problem-solver skilled in debugging production issues and building reliable backend systems.

## CORE SKILLS

**Frontend:** React.js, JavaScript, TypeScript, HTML5, CSS3, responsive design, hooks, Context API, basic accessibility and performance optimization

**Backend:** Node.js, Express.js, FastAPI, RESTful API design, authentication, validation, error handling

**Databases:** PostgreSQL (schema design, indexing, query optimization), ORM usage, data modeling

**Real-Time:** WebSockets, real-time data synchronization, event-driven flows

**Architecture:** MVC patterns, service-oriented design, scalability fundamentals, asynchronous programming

**DevOps & Cloud:** Docker, CI/CD basics, Linux command line, AWS fundamentals

**Languages:** JavaScript/TypeScript, Python, SQL, intermediate Java

**Tools & Practices:** Git/GitHub, Agile workflows, Postman, VS Code, debugging, code reviews

**Core Strengths:** Problem-solving, system thinking, cross-team collaboration, ownership mindset

## EXPERIENCE

### Software Development Engineer Trainee

Jul 2024 – Feb 2025

VRD Squared Technologies, India

- Built full-stack features for SaaS applications using React, Node.js/Express.js, FastAPI, and PostgreSQL; contributed to system design decisions.
- Developed responsive React and Angular components with state management, accessibility, and cross-browser optimization.
- Designed secure RESTful APIs with authentication, ORM integration, validation, and error handling.
- Optimized PostgreSQL schemas and queries to improve application performance; debugged production issues across the stack.
- Participated in architecture discussions supporting real-time and AI-driven features.

## PROJECTS

### Real-Time Pair Programming Platform | *React, TypeScript, Node.js/Express.js, PostgreSQL, WebSockets*

- Built a full-stack real-time collaboration platform enabling concurrent users to code with live updates and session management.
- Implemented WebSocket-based real-time communication and backend services to support concurrent connections and reliable state synchronization.
- Designed and optimized PostgreSQL schema for multi-user sessions to improve reliability and query performance.

### SemanticEngine – AI-Powered Content Retrieval | *React, Node.js APIs, PostgreSQL (pgvector), Google Gemini*

- Built an AI-powered content retrieval platform integrating semantic search and structured data processing.
- Integrated Gemini embeddings with PostgreSQL pgvector to enable meaning-based content retrieval.
- Implemented Node.js REST APIs for extraction, transformation, and retrieval with optimized vector indexing and query pipelines.

## EDUCATION

### Bachelor of Technology in Computer Science and Engineering

2020 – 2024

Sahrdaya College of Engineering & Technology (Autonomous), Thrissur, Kerala