

# Akash R

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## Education

Chennai Institute of Technology, BE in Electronics and Communication

Nov 2022 - Mar 2026

• GPA: 8.2/10.0

## Technical Skills

- **Backend & API Development:** Python, FastAPI, Flask, Node.js, Express.js; REST APIs, OpenAPI/Swagger, WebSocket integration, asynchronous programming
- **Cloud & Infrastructure:** AWS (EC2, S3, Lambda, SQS, SNS), Docker, Kubernetes (basic), Linux
- **Databases:** PostgreSQL, MySQL, MongoDB, Firebase, DynamoDB, CRUD operations, query optimization, transactions
- **Streaming & Messaging:** AWS SQS/SNS for event-driven architectures; familiarity with async queue-based data pipelines
- **Programming Languages:** Java, C++ , C, SQL
- **Tools:** Git, GitHub, Postman, Docker, CI/CD fundamentals, performance profiling
- **Frontend (for full-stack context):** React.js, Next.js

## Internship Experience

Prepinsta, Full Stack Developer Intern

Jun 2024 - Aug 2024

- Built and maintained RESTful APIs using Node.js & Express.js with MongoDB; improved database query performance, contributing to measurably lower response latencies under load.
- Implemented token-based authentication and request validation; containerized services using Docker to support consistent dev/staging environments.

CodeBind Technologies, Web Developer Intern

Nov 2023 - Dec 2023

- Designed and implemented a JWT-based authentication system with role-based access control across PostgreSQL and MongoDB-backed services, tightening access security.
- Optimized multi-table queries and CRUD operations in PostgreSQL; contributed to schema design improvements.

## Backend-Focused Projects

SyncOps - Real-time Collaboration Platform

SyncOps

- Built a WebSocket-based real-time backend with Python FastAPI, tested to sustain 1000+ concurrent connections; designed for horizontal scalability with stateless service patterns.
- Implemented PostgreSQL with optimized query design, API rate limiting, and structured error handling concepts directly applicable to multi-service, cloud-hosted architectures.

AgroConnect - E-commerce Backend System

AgroConnect

- Designed REST API backend with FastAPI serving concurrent users; integrated PostgreSQL with connection pooling and an in-memory caching layer to reduce database round-trips.
- Architected a backend system utilizing microservices principles, developing independent, loosely coupled services for payment, inventory, and authentication to enable horizontal scaling and independent deployment.

TruthGuard - AI-Powered Content Analysis API

TruthGuard

- Developed an async Python/FastAPI backend integrating MongoDB Atlas Vector Search and Google Gemini AI APIs; used asynchronous task processing to handle ML inference without blocking request threads.
- Designed data pipelines for large-scale text workloads a pattern applicable to real-time streaming and event-driven systems.

LearnFree - Educational Platform Backend

LearnFree

- Built a multi-role backend supporting user management, course delivery, and progress tracking via structured PostgreSQL analytics and role-based access control.
- Designed API endpoints and structured backend services with strict separation of concerns, establishing a clear architectural pathway for microservice decomposition and multi-service cloud hosting.

## Achievements & Recognition

- **Docugen Hackathon Winner** - Won \$100 for delivering a production-ready backend solution under time constraints.
- **Nosu AI Hackathon Special Recognition** - Recognized for API integration and system design approach.
- **Google Chrome AI Challenge, SIH Finalist** - Finalist for backend development and scalable architecture.

## Certifications

- **AWS Cloud Practitioner Essentials** - AWS Skill Builder; covered core AWS services, cloud architecture fundamentals, and multi-cloud deployment concepts including compute, storage, and networking.
- **MongoDB for Developers** - MongoDB University; CRUD operations, aggregation pipelines, indexing, and transactions.
- **Digital Skills: AI & Machine Learning** - Accenture; covered AI integration, API development, and ML model deployment.

## Leadership & Fast-Paced Experience

- **Head of Web Development, Vidyutrenz Symposium** - Led a web dev team to ship a registration platform handling 2000+ sign-ups with minimal downtime; coordinated across design, backend, and ops under tight deadlines.
- **Coding Competition Coordinator** - Organized technical events for 200+ participants; managed logistics and cross-functional coordination in a high-pressure, fast-paced environment.