

# Kamal Poshala

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## TECHNICAL SKILLS

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**Programming Languages:** Java, JavaScript, Python, C

**Backend Engineering:** Node.js, Express.js, RESTful APIs, Microservices Architecture, Middleware, JWT Authentication, Socket.IO

**Databases:** MongoDB, MySQL, Indexing, Aggregation Pipelines, Query Optimization

**Systems:** Data Structures, Algorithms, OOP, System Design, Concurrency, Distributed Systems, Event-Driven Architecture

**DevOps:** Git, CI/CD Pipelines, Linux, Cron Scheduling

**Frontend:** React.js, TypeScript, TailwindCSS

## EXPERIENCE

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### Cotiviti India

Jan 2024 – Jun 2024

Software Engineer Intern — Node.js, MongoDB, Microservices

- Delivered 12+ production-grade RESTful services processing 5K+ daily transactions in distributed backend systems, improving automation efficiency by 30%.
- Designed microservice-based internal platforms adopted across 3 engineering teams, eliminating 40% of manual workflows.
- Increased backend throughput by 35% via asynchronous request orchestration, optimized aggregation pipelines, and database indexing.
- Led resolution of 20+ production incidents through root-cause analysis and structured debugging, improving system availability to 99.8%.
- Collaborated with DevOps teams to streamline CI/CD pipelines and reduce deployment cycle time.

### Persistent Systems

Aug 2023 – Oct 2023

Software Engineer Intern — Java, Linux

- Engineered performance-focused Java backend modules reducing execution time by 25% through memory optimization and algorithm refinement.
- Implemented scalable algorithmic solutions using advanced data structures (HashMaps, Heaps, Graph traversal).
- Improved multi-threaded stability by optimizing synchronization mechanisms and reducing CPU contention.

## PROJECTS

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### SyncSpace — Real-Time Collaborative Workspace (GitHub) | (Live)

2025

React, TypeScript, Node.js, Express, Socket.IO, MongoDB

- Architected real-time collaborative platform supporting concurrent document editing, live chat, and presence tracking using WebSockets.
- Designed room-based event-driven communication layer with modular socket handlers for workspace isolation.
- Implemented JWT-secured REST and WebSocket authentication with role-based access control (RBAC).
- Reduced database write load via debounced client updates and throttled persistence strategies.
- Optimized scalability by maintaining persistent socket connections with intelligent room switching.
- Deployed backend on Koyeb and frontend on Vercel with production-ready environment configuration.

### Internship Program Management System (IPMS) (GitHub)

Mar 2025 – Apr 2025

Node.js, MongoDB

- Designed distributed approval workflow with role-based access control and secure JWT authentication.
- Implemented 15+ RESTful endpoints handling 1,000+ transaction events with centralized logging and validation middleware.
- Automated email reminder and escalation workflows using cron scheduling, reducing approval turnaround time by 40%.
- Improved query performance by 38% through index creation and aggregation pipeline restructuring.
- Structured backend services with modular separation of controllers, middleware, and utilities to enhance maintainability.

### CogniFetch — Search and Retrieval Engine (GitHub)

Jan 2024 – May 2024

Node.js, MongoDB, NLP

- Developed TF-IDF based search engine indexing 10K+ academic documents with relevance scoring.
- Built OCR and NLP ingestion pipeline transforming 2K+ PDFs into structured datasets.
- Implemented cosine similarity ranking and optimized query execution for efficient retrieval.
- Reduced query latency by 45% through indexing strategies and optimized aggregation queries.
- Designed clean API layer enabling pagination, filtering, and scalable search expansion.

## EDUCATION

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### University of Oklahoma

Aug 2024 – May 2026

Master of Science in Computer Science

Coursework: Distributed Systems, Advanced Algorithms, Database Systems, Cloud Computing

### CVR College of Engineering

Aug 2020 – May 2024

Bachelor of Technology in Information Technology