Jyotishman Pathak

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SUMMARY

Systems-oriented backend engineer specializing in building and scaling distributed, real-time applications. Proven experience in designing fault-tolerant systems using modern technologies like Node.js, Go, Kubernetes, and Kafka. Focused on leveraging observability and infrastructure-as-code to build robust, maintainable platforms.

TECHNICAL SKILLS

Core Languages: TypeScript, Python, Java,
Backend & APIs: Node.js (Express, NestJS), , GraphQL, TRPC, REST, Socket.io
Databases: PostgreSQL, MySQL, MongoDB, Redis (Pub/Sub, Caching, Queues)
Infrastructure & DevOps: Docker, Kubernetes, AWS (EC2, S3), Prometheus, Grafana
Data Engineering & Messaging: Apache Kafka, RabbitMQ, Redis Streams
Tools & Paradigms: Prisma, Turborepo, Git, Linux, Database Optimization, System Design, Microservices

EXPERIENCE

Backend Engineer Intern   May 2024 - July 2024
Bluestack Fintech   *Mumbai, India*
– Engineered a critical financial data processing service using **Node.js (NestJS)** and **PostgreSQL**, reducing API latency by **40%** through strategic query optimization and database indexing
– Implemented a **Redis-based caching layer** for high-frequency request data, decreasing read load on the primary database by **70%**
– Designed and deployed a **rate-limiting** system using a token bucket algorithm to protect downstream services from traffic spikes and potential abuse

PROJECTS

Distributed Real-Time Multiplayer Platform   *TypeScript, Kubernetes, Kafka, Redis, Socket.io*
– Architected and deployed a low-latency, horizontally scalable platform supporting **10,000+ concurrent users**
– Decoupled real-time communication using **Redis Pub/Sub** for inter-service communication and **Apache Kafka** to stream game events
– Orchestrated **10+ microservices** using **Kubernetes**, configuring Horizontal Pod Autoscalers based on custom metrics

High-Throughput Distributed Web Scraper   *NodeJs, Redis, Kubernetes, Kafka, PostgreSQL*
– Built a fault-tolerant data pipeline platform designed to process millions of jobs daily
– Designed a producer-consumer model using a **Go-based orchestrator** and stateless worker pods
– Configured Kubernetes HPA to dynamically scale the worker pool based on Redis queue depth
– Optimized database performance by **30%** through analysis of query patterns and implementation of targeted indexes

EDUCATION

Bachelor of Engineering in Electronics & Instrumentation   2023 – 2027
Jorhat Institute of Science and Technology   *Jorhat, Assam, India*

LEADERSHIP & ACHIEVEMENTS

Web Lead, JIST Coding Club (2024 – Present) Organized hackathons and coding sessions, mentored peers in web development, and led the design and deployment of the club's official website: jistcodingclub.in.

Cloud Lead, Google Developer Student Club (GDSC) (2024 – Present) Conducted a workshop on Google Cloud Console, teaching participants how to generate and use OAuth tokens for secure Google authentication, and guided students in leveraging cloud services for real-world projects.