

# DHVANI BHESANIYA

## SOFTWARE DEVELOPER

Ahmedabad, India

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### SUMMARY

Backend developer with 2+ years of hands-on experience building and maintaining infrastructure-critical systems using Rust (Axum, Tokio, Async) and Node.js. Core contributor to an organization-wide infrastructure team, developing scalable APIs and services. Experienced with Kafka, Docker, GitHub, MongoDB, TiKV, and the ELK stack. Strong understanding of distributed systems, backend architecture, and producing clean, efficient, production-grade code.

### SKILLS

#### Languages:

Rust, JavaScript, Python

#### Backend:

Node.js, Axum, N-API (napi.rs), Tokio, Polars

#### Databases & Storage:

TiKV, CB, ELK stack, MongoDB, SQL, MinIO

#### Frontend:

React.js

#### DevOps & Tools:

Docker, Kubernetes (basic), GitHub Actions, Kafka, CI/CD

### EDUCATION

#### B.Tech in Information Technology

2020 – 2024

RK University, Rajkot

CGPA: 8.56 / 10

### EXPERIENCE

#### Software Engineer

June 2025 – Present

Inventyv Software Pvt. Ltd., Ahmedabad, India

- Spearheaded backend architecture for critical infrastructure services using Rust (Axum) and Node.js, ensuring 99.9% availability.
- Architected and maintained `inventyv_datalayer_lib`, a core library unifying drivers for TiKV, Kafka, MinIO Elasticsearch, and Couchbase, reducing microservice boilerplate by 40%.
- Redesigned the task assigner service in Rust to improve reliability and scalability of real-time task routing for customer support and sales workflows.
- Designed fault-tolerant, multi-threaded worker systems consuming high-throughput Kafka topics for asynchronous data synchronization and consistency.
- Mentored junior developers on Rust idioms, memory safety, and concurrency models established strict code review standards to maintain high code quality.

#### Junior Software Engineer

June 2024 – June 2025

Inventyv Software Pvt. Ltd., Ahmedabad, India

- Served as a core contributor to the company's unified Data Access Layer (DAL), preventing vendor lock-in by enabling seamless database switches via configuration.
- Developed a high-speed gRPC replication service for cluster-to-cluster data migration, ensuring zero data loss during active-active failovers.
- Solved complex distributed system challenges including eventual consistency (Distributed systems like failovers), and Learned about idempotent message processing.
- Collaborated with teams to simplify infra setup and onboarding via reusable abstractions, improving delivery speed and maintainability.

#### Software Developer Intern

December 2023 – June 2024

Inventyv Software Pvt. Ltd., Ahmedabad, India

- Developed efficient RESTful APIs using Rust (Axum) and gained hands-on experience with the company's tech stack, including Docker, Kafka, and CI/CD pipelines.
- Contributed to the backend of the Software Update Manager System (SUMS), assisting in the implementation of version control, audit logging, and secure file handling.

- Collaborated with the team to understand database interactions (TiKV, Elasticsearch) and adopted professional workflows using GitHub and Agile methodology.
- Gained deep proficiency in Rust ownership models, trait systems, and async programming in a fast-paced agile environment.

## PROJECTS

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### **Inventy DataLayer Library** | *Rust, Napi, Node.js, TiKV, CB, Elk stack, MinIO, Kafka, Docker*

- Designed the standard infrastructure library for the organization, unifying access to TiKV, Kafka, MinIO, Elasticsearch, and Couchbase.
- Leveraged **napi.rs** to compile Rust core logic into native Node.js addons, via docker and GitHub workflows handling.
- Implemented advanced features like automatic retries, data comparison, and data history management via Configuration Management.
- Drastically reduced per-project setup time and improved system reliability by enforcing consistent configuration patterns.

### **Task Assigner Service (v2)** | *Rust, Axum, Tokio, Channels, Event-Driven Systems*

- Re-engineered a legacy Node.js task distributor into a high-performance Rust service, handling **5x greater load** with lower latency.
- Utilized **channels, Arc & Mutex** for thread-safe state management and event-driven processing of thousands of requests per second.
- Orchestrated complex routing logic for customer tasks (calls, chat) based on real-time agent availability and skill sets.
- Deployed in production for critical sales and support workflows, ensuring 100% accurate task distribution.

### **Data Replication Service** | *Rust, gRPC, TiKV, Kafka, Axum, Docker*

- Built a resilience-first replication tool using gRPC streaming for real-time, bi-directional verification of data chunks.
- Leveraged **Kafka** for reliable message queueing and **TiKV** for distributed transactional storage.
- Implemented sophisticated error handling and back-pressure mechanisms to survive network partitions and high load spikes.

### **Software Update Manager (SUMS)** | *Rust, Axum, Tokio, TiKV, Elasticsearch*

- Developed a centralized software lifecycle management platform as my first major internship project, where I mastered Rust and backend fundamentals to deliver a production-grade automation tool.
- Designed a scheduler-driven engine that periodically audits software versions, applying newly acquired knowledge of concurrent systems.
- Implemented fine-grained control for Ops teams to approve/reject updates, translating complex business requirements into robust tech solutions.
- Integrated Elasticsearch to provide instant query capabilities, marking my first successful implementation of scalable search infrastructure.

### **Ledger Core — Transaction Ledger System** | *Rust, Axum, Diesel, PostgreSQL, Docker*

### **Personal Exploration Project**

- Architected a production-ready, high-performance ledger system with role-based access control (RBAC), supporting admin and customer-scoped API keys with SHA-256 hashing and prefix-based identification.
- Engineered secure transaction processing with idempotency guarantees, multi-currency account management, and real-time webhook notifications for event-driven architectures.
- Implemented comprehensive middleware stack including API key authentication, rate limiting (configurable per-key), CORS protection, and request/response logging with console output.
- Designed layered architecture (handlers, services, repositories) with **Diesel ORM** for type-safe database operations, achieving clean separation of concerns and maintainable codebase.
- Delivered complete developer experience with Postman collection, cURL examples, Docker Compose setup, and automated database migrations for seamless onboarding.

## ACHIEVEMENTS

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- **Competitive Programming:** Solved 100+ algorithmic problems on LeetCode, demonstrating strong consistency in data structures and logic optimization.
- Actively exploring advanced Rust topics and applying them in personal projects; created **Text & Voice Active CLI AI** as a hands-on learning project to experiment with LLMs, STT/TTS, and native bindings.