Tushar Khokhar

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Summary

Backend Engineer with experience building scalable backend systems and infrastructure. Skilled in backend development and system design, with a track record of delivering reliable production systems supporting high user traffic

EDUCATION

Indian Institute of Technology, Kharagpur 2022 - 26
Bachelor of Technology in Ocean Engineering and Naval Architecture CGPA : 8.85/10

Experience

Arcane Labs | Backend & Systems Engineer | Full-time Feb '25 - Mar '26
Founding Backend Engineer, leading the design and delivery of resilient, scalable backend systems and infrastructure using Node.js, Python and Go

- Built a **high-performance CLOB engine** handling **1K–3K requests/sec**, enabling low-latency trade execution in a production environment
- Designed **event-driven systems** using Redis and WebSockets, improving efficiency and scalability of real-time order processing workflows
- Implemented **asynchronous workflows with retries and idempotency**, improving system reliability and ensuring consistent processing
- Implemented **efficient caching strategies using Redis**, reducing latency and improving API response performance under high traffic
- Implemented **event-driven data pipelines**, improving data reliability and enabling seamless real-time synchronization for client systems
- Engineered **Docker-based infrastructure**, automating deployments via CI/CD pipelines and scripts to ensure reliable, scalable production
- Engineered **high-throughput transaction services**, enabling secure, low-latency, and idempotent execution of blockchain operations
- Designed **secure wallet and signing pipelines**, enabling seamless onboarding and transaction authorization via Privy-backed signing
- Architected **asynchronous backend workflows**, improving efficiency, optimizing queries, and accelerating data processing across systems

Mode Network | Backend & Blockchain Engineer | Internship Nov '24 - Jan '25
Backend Engineer, building backend systems and smart contract infrastructure for on-chain governance using Node.js and Solidity

- Designed and architected **backend systems and Solidity smart contracts** managing an **$8M+ treasury**, enabling secure governance
- Reduced **gas costs by 35%** through optimized smart contract design and Velodrome integration, improving capital efficiency
- Contributed to **significant post-launch growth** by building robust, production-grade backend and smart contract infrastructure

Eclipse Network | Backend & Blockchain Engineer | Internship Aug '24 - Oct '24
Backend Engineer, building high-performance backend systems and smart contracts for digital asset transfers using Go and Solana

- Developed **NFT trading backend services** handling **500K+ user operations**, enabling scalable, reliable, and efficient on-chain settlement
- Developed **Solana smart contracts for escrow and settlement**, enabling secure and reliable execution of digital asset transactions
- Implemented **optimized database operations**, improving data processing speed and handling large volumes efficiently in production

zkAGI | Backend & Systems Engineer | Full-time May '23 - Jul '24
Backend & Systems Engineer, building low-latency distributed systems and backend infrastructure for AI workloads

- Built a **distributed GPU orchestration platform in Rust**, enabling efficient resource management and execution across compute systems
- Designed a **low-latency P2P communication layer**, improving coordination and system efficiency across distributed applications
- Managed **Docker and Kubernetes-based infrastructure**, ensuring high availability, fault tolerance, and scalable deployments in production

PROJECTS

Real-Time Code Collaboration | Rust Self Project
Built a real-time code collaboration platform supporting concurrent multi-user editing with low-latency synchronization and conflict resolution

- Built a **real-time collaborative editor**, enabling multi-user editing with automatic conflict resolution and seamless synchronization
- Designed a **WebSocket and Redis Pub/Sub system**, enabling real-time, low-latency state synchronization across multiple clients
- Implemented **high-performance state persistence**, enabling efficient and reliable document syncing and recovery across sessions

Real-Time Messaging Platform | Rust Self Project
Built a scalable real-time messaging platform with secure authentication, asynchronous delivery, and support for multi-user communication

- Built a **high-concurrency messaging system in Rust**, enabling real-time communication using scalable, persistent WebSocket connections
- Implemented **JWT-based authentication and asynchronous delivery**, ensuring secure message handling with support for group chats
- Designed **scalable message queuing and delivery pipelines**, ensuring efficient handling of concurrent user communication

Competitions

Aptos Blockchain Challenge | Part of Gold-Winning Contingent InterIIT Tech Meet 12.0
Part of the gold-winning team in the Aptos Blockchain Challenge, building smart contracts in Rust for a governance-driven Twitter Clone

- Developed **Move-based smart contracts**, enabling decentralized governance and seamless, secure on-chain user interactions at scale
- Designed **efficient and secure backend logic for blockchain interactions**, optimizing costs and ensuring fast execution of user requests
- Authored **contract documentation and integration guides**, reducing onboarding time and accelerating developer adoption across teams

Skills and Expertise

Programming Languages: TypeScript | Go | Rust | Python | SQL | Bash/Shell | Solidity | C++
Backend & Systems: Node.js | REST APIs | Distributed Systems | Event-driven Architecture | Microservices | Caching | System Design
Databases: PostgreSQL | MongoDB | Redis | MySQL | Database Design | Query Optimization | Indexing
Others: Ethereum | Solana | EVM | Smart Contracts | DeFi | Foundry | Hardhat | Web3.js | Docker | Kubernetes | AWS | CI/CD | Linux