M. Shaharyar — Full-Stack Software Engineer

Pakistan — Remote Worldwide

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Core Strengths

- **Distributed systems:** realtime sync, offline-first, conflict resolution •
AI-augmented content tech: embeddings, ranking systems, NLP pipelines •
End-to-end product engineering: architecture UI/UX deployment → → • **Rust performance + TypeScript developer experience**

Featured Work

Founder & Lead Engineer — Novus Atlas (NOVA)

Full creative platform — multiplayer writing, AI quality engine, semantic discovery

100k+ LOC | Solo built | Production beta

- Architected a real-time collaborative editor using OT with offline merge and granular presence.
- Designed a semantic discovery engine using Rust embeddings + vector DBs. •
Built Nexus: a writer-focused knowledge graph with semantic relationships. •
Implemented branch-based versioning (Git for fiction).
- Conducted accessibility-driven UX design for immersive reading.

- *Key impact: Unified writing, editing, worldbuilding, and publishing experience*

Creator — OpenOT

Operational Transformation engine powering real-time editors

Open source | Integration kits for Lexical/React

- Pluggable transport/storage: WebSockets, SSE, Redis, Durable Objects. •
State-machine based transformation logic.
- Data-agnostic: text + structured nodes.

- *Key impact: Google-Docs-grade collaboration for any editor stack*

Voice Activity Detection (Rust WASM) →

Noise-resistant VAD pipeline using Mel spectrograms

- DSP: FFT + spectral smoothing heuristics.
- Browser-compatible design (WASM planned).

Technical Skills

- **Languages:** TypeScript, Rust, Python, SQL
- **Frameworks:** Next.js, React, Hono, Node.js, Electron
- **Databases:** PostgreSQL, Qdrant, Redis, MySQL
- **Specialties:** Real-time infra, NLP & embeddings, high-performance UI/UX

Publications

- [NOVA Design Philosophy](#)
- [A Technical Introspect into the Quality Checker](#)
- [Core Concepts of Operational Transformations](#)
- [Case Study on Operational Transformations](#)
- [Case Study on NOVA & Content Platforms](#)