

Harsh Tiwari

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EXPERIENCE

• Kusho

Bengaluru, India

Senior Software Engineer

Nov 2023 - Present

- **AI-Powered E2E Testing Platform:** Architected an LLM-powered testing platform that generates intelligent API test chains, orchestrating 5K+ concurrent test flows with on-device execution for privacy, resulting in 2x improvement in testing efficiency.
- **Intelligent Task Processing System:** Engineered distributed test generation pipeline with LangChain, Redis, and vector search, processing 10K+ daily tasks with 99.9% reliability, achieving 15% faster test creation through intelligent load balancing and fault tolerance.
- **Automated UI Testing Framework:** Engineered a Chrome extension integrating Playwright and LLM capabilities, enabling testers to automatically generate multiple test variations from a single recorded user flow, significantly reducing manual test writing while increasing scenario coverage.
- **Universal API Testing Framework:** Architected multi-protocol testing framework with custom DSL for REST/GraphQL APIs, reducing test authoring time by 10% with 85% coverage across services.

• Castler

Delhi, India

Software Engineer

July 2021 - August 2023

- **Enterprise Payment Processing Platform:** Built high-throughput payment system with Redis and circuit breakers for UPI/IMPS/NEFT, processing 100Cr+ monthly with 90% uptime and sub-1% failure rates.
- **Financial Security Infrastructure:** Implemented bank-grade security using OAuth 2.0/PKCE with automated scanning (OWASP ZAP, SonarQube), achieving PCI DSS compliance.
- **No-Code Financial Workflow Platform:** Developed React/TypeScript-based workflow builder with XState, enabling drag-and-drop transaction automation that substantially increased user adoption and reduced manual errors.
- **Large-Scale Database Migration:** Led zero-downtime migration of 500GB+ financial data from MongoDB to MySQL, implementing optimized schemas and caching for 20% faster queries and RBI compliance.
- **High-Scale Batch Payee Validation System:** Architected distributed batch processing pipeline using Redis, Kafka, and parallel worker pools, validating 1M+ payees daily with automated retries and error recovery.

PROJECTS

- **Simple Migrator:** Developed and published a Python-based SQL migration tool supporting multiple databases with features for version control, rollback mechanisms, and migration status tracking. Includes CLI for migration creation, application, and synchronization. [Link]
- **Nvim HTTP Test Manager:** Created a Neovim plugin in Lua for managing HTTP API tests, featuring LLM-powered test generation, and result visualization. Supports environment variables and test suite organization with automated test case suggestions. [Link]

TECHNICAL SKILLS

- **Programming Languages:** : Python, TypeScript, GoLang, Rust, C++, SQL, Java, JavaScript
- **Frontend Development:** : React, Next.js, TypeScript, Redux, Vue.js, NuxtJS, HTML5, CSS3, Tailwind
- **Backend Development:** : Node.js, NestJS, Express, Flask, FastAPI, GraphQL
- **Databases & Caching:** : PostgreSQL, MySQL, MongoDB, Redis, Elasticsearch, Pinecone
- **DevOps & Cloud:** : Docker, Kubernetes, AWS, GCP, CI/CD, GitHub Actions, Jenkins
- **AI & Testing:** : LangChain, OpenAI, Playwright, Jest, Mocha, Chai, PyTest
- **Tools & Practices:** : Git, Linux, Nvim, Tmux, TDD, System Design, Microservices

EDUCATION

• Amity University

Bachelor of Technology in Computer Science

Lucknow, India

Aug. 2017 – May 2021