Karan Panda

Software Engineer | **Backend & Full-Stack** | **C#/.NET, TypeScript, Python**

Mumbai, India

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SUMMARY

Software engineer (B.E. IT, 2025) shipping production systems end to end: API design, legacy service and database migration, performance optimization and production GenAI. Works across C#/.NET, TypeScript, Python, AWS and GCP, and uses AI coding tools with careful review and testing.

TECHNICAL SKILLS

Languages: JavaScript, TypeScript, C#, Python, SQL
Backend: ASP.NET Core (.NET), FastAPI, REST API design, Entity Framework Core, Microservices, Webhooks, Third-party API integration
Frontend: React, Next.js (SSR/SSG), Zustand, Microfrontends, Vite, Webpack, HTML, CSS
Data & Cloud: PostgreSQL, Oracle, AWS (ECS, S3), GCP, Docker, Caching (output caching, Brotli, browser storage)
AI/GenAI: MCP, RAG, Vertex AI, Semantic retrieval, LLM evaluation (golden sets)
Testing & Tools: pytest, pytest-asyncio, httpx, MSW, Postman, Git, GitHub Copilot

EXPERIENCE

ICICI Lombard General Insurance — Mumbai, India

Associate Software Engineer (Full-time) — Aug 2025 – Present

- Primary engineer migrating legacy **Angular** journeys (motor renewal, two-wheeler buying) to **Next.js** across a legacy enterprise codebase; raised Lighthouse from **37 to 93** and cut page load by ∼**27%** on the migrated renewal journey.
- Designed frontend-ready **ASP.NET Core APIs** that move business rules and multi-service orchestration from the client into the backend, cutting API calls by ∼**14%** on the renewal journey; integrated new flows directly with the core policy system, removing intermediary service hops.
- Owned frontend delivery of **RYD Raksha**, a motor-insurance product, in Next.js, TypeScript and Zustand, guiding a backend team of interns and recent graduates.
- Reduced a vehicle and RTO reference-data API payload from ∼**17 MB to** ∼**6 MB** with Brotli and .NET output caching in ECS memory; shrank the browser-cached copy from ∼**6 MB to** ∼**1.1 MB** with LZ-String (1-day LocalStorage TTL).
- Contributed to live production changes for RYD Raksha and two-wheeler: **Oracle-to-PostgreSQL** migration (EF Core), XML core integration replaced by JSON (v2.0) core services, and config-driven **disaster-recovery** endpoint switching across cross-region AWS ECS.
- Built the four **MCP tools** behind **KYP**, a production GenAI insurance assistant (Python, FastAPI, Vertex AI) with a **peak of 12,000+ daily active users**: policy lookup from the core system across health, travel, motor and home; step-by-step workflow guidance; company-profile answers; and RAG over product information.
- Implemented code-based tool routing and role-based access control with signed claims for KYP; queries run at **700–1,300 ms** through the API gateway; checked answers against a golden-set evaluation and tested services with pytest, pytest-asyncio and httpx.
- Built a reusable **KYC microfrontend** (Vite/Webpack, script + CSS bundle) embedded in the motor renewal and post-payment buying journeys, and a Next.js library of **14+ components** reused across 3 customer journeys; contributed to the renewal **payment gateway** integration.

ICICI Lombard General Insurance — Mumbai, India

Engineer Trainee (Internship) — Feb 2025 – Aug 2025

- Built ASP.NET Core services and **webhook-driven workflows** for travel insurance: Cirium flight data for delay and cancellation claim payouts, database-driven claim rules, AWS S3 document storage and partial-submission state.
- Contributed to backend for commercial-vehicle **one-click renewal** on the core policy system; shipped in ∼**2 weeks**.

EDUCATION

Thakur College of Engineering and Technology — Mumbai, India

B.E. Information Technology – CGPA 9.83/10, Department Topper — 2021 – 2025

AWARDS & LEADERSHIP

HighFlier Award 2026, ICICI Lombard | Best Research Paper Award, Multicon-W 2024 | Technical Head, ACM TCET