

ANKIT PRADHAN

Kathmandu, Nepal

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SUMMARY

Full-stack engineer with 5+ years shipping production systems in TypeScript/Node.js and Java/Spring Boot – distributed systems, PostgreSQL performance, and end-to-end ownership from design through production. Now building AI systems to the same standard: RAG pipelines, MCP agents, and fine-tunes measured against real baselines.

SKILLS

Languages	TypeScript, JavaScript, Java, Python, SQL
Frontend	React, Next.js (App Router, Server Components), Tailwind CSS, Radix UI, state management, real-time updates, performance optimization
Backend	Node.js (5+ years), NestJS, Express, Spring Boot (2+ years), REST API design, GraphQL (Apollo Federation/Gateway), microservices
Async & Distributed	Apache Kafka (at-least-once semantics, idempotency, consumer lag), AWS SQS/SNS, gRPC, event-driven systems, workers/queues
Database	PostgreSQL (execution plans, indexes, JSONB, window functions, materialized views, data modeling), query optimization, schema design
Architecture & Design	Microservices, distributed systems, API contracts, performance optimization, concurrency patterns, workflow orchestration (Orkes Conductor)
Cloud & DevOps	AWS (ECS, Fargate, Lambda, SQS, SNS, S3, RDS, CloudWatch), Docker, Kubernetes, Terraform, GitHub Actions, GitOps
Testing & Quality	Jest, Vitest, integration testing, 85%+ coverage, test-driven development, production debugging
AI & LLM Engineering	RAG pipelines (pgvector, hybrid vector/lexical retrieval, Reciprocal Rank Fusion, cross-encoder reranking), Model Context Protocol (MCP) tool-calling agents, LangGraph orchestration, LoRA fine-tuning (MLX) with self-hosted inference (Ollama), LLM-as-judge eval harnesses, prompt-injection defense

EXPERIENCE

Senior Software Engineer Progressive Labs	Sep 2024 – Present Kathmandu, Nepal
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- Owned full-stack systems end-to-end: React dashboards, NestJS APIs, PostgreSQL schemas, production monitoring. No handoffs - designed, built, shipped, and operated features independently.
- Integrated Braintree/PayPal payment gateways handling multi-currency transactions. Managed nonce-based tokenization, 3D Secure authentication, and webhook-driven subscription lifecycles.
- Architected distributed export pipeline processing 100K+ PDF documents in under 60 minutes using AWS Fargate, S3, SQS, KEDA autoscaling, and Orkes Conductor workflow orchestration. Designed for scale and fault tolerance.
- Designed clustering-based locking mechanism for bulk operations on millions of entities. Implemented proximity-based algorithms and hierarchical cluster-group architecture preventing event queue congestion while maintaining data consistency.
- Built multi-vendor data ingestion system with configurable layout mappings. Normalized CSV, XML, and fixed-width formats from heterogeneous client data into unified entity models.
- Developed financial transaction processing system handling automated fee calculations, interest accrual, and reconciliation workflows with full audit trail capabilities for compliance.

- Led infrastructure optimization initiatives fine-tuning CPU/memory allocation profiles and scaling thresholds, reducing resource waste by 30%.
- Optimized PostgreSQL schemas for high-throughput operations. Analyzed execution plans and built data models supporting complex transaction workflows and reporting at scale.

Software Engineer
Proshore / PowerLedger

Sep 2022 – Aug 2024
Kathmandu, Nepal

- Shipped full-stack features across React frontends and Node.js/Spring Boot backends. Owned products end-to-end from design through production deployment and support.
- Built end-to-end CI/CD pipelines with GitHub Actions and GCP. Reduced deployment time by 70% and improved release reliability with automated testing and staging validation.
- Led major monorepo decomposition enabling independent service releases and deployment autonomy. Boosted release velocity 3×, reducing bottlenecks across teams.
- Developed Spring Boot and Kafka microservices for real-time transaction streaming and validation. Designed at-least-once delivery semantics with idempotency keys, managed consumer lag, implemented dead-letter queue recovery.
- Integrated secure payment and banking workflows using Plaid and Dwolla. Managed sensitive financial data, complex ACH transaction states, and PCI compliance requirements.
- Architected GraphQL Federation with distributed subgraphs coordinating across microservices. Managed schema composition and cross-service type resolution enabling autonomous team development.
- Debugged and optimized production systems at scale. Traced performance bottlenecks across services and implemented fixes ensuring reliability and throughput under load.

AI ENGINEERING PROJECTS

- **AI Support Triage Copilot** – LangGraph triage pipeline streamed over SSE. Fine-tuned Qwen2.5-0.5B (MLX LoRA, self-hosted on Ollama): 96.4% accuracy vs 57.1% zero-shot baseline, 4x faster at \$0 inference cost. Prompt-injection attack reproduced, fixed, and re-tested. OAuth 2.1 multi-tenancy; mutating actions require audited human approval.
github.com/bro-ankit/ai-support-triage-copilot
- **AI Incident Response Copilot** – Multi-agent root-cause analysis over stdio MCP servers with real multi-turn tool loops. Neo4j dependency graph makes remediations blast-radius aware; propose-only by design. LLM-as-judge: 6/6 incidents at 0.96 correctness, 1.00 groundedness.
github.com/bro-ankit/ai-incident-response-copilot

OPEN SOURCE

- **pnpm (contributor)** – Fixed auth config bug in both TypeScript CLI and Rust port. Performance and systems thinking across languages.
github.com/pnpm/pnpm/pull/12679
- **@bro-ankit/nestjs-typeorm-transactional-context** – NestJS library for transactional context propagation. 80+ weekly downloads in production systems.
npmjs.com/package/@bro-ankit/nestjs-typeorm-transactional-context
- **nestjs-sqs (contributor)** – Fixed critical lifecycle bug in message handler wrapping. Deep understanding of framework internals and concurrency.
github.com/ssut/nestjs-sqs/pull/109

EDUCATION

Bachelor of Engineering in Computer Engineering
Khwopa College of Engineering, Tribhuvan University

2017 – 2022
Nepal