

Piyush Mishra

SENIOR SOFTWARE ENGINEER

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PROFESSIONAL SUMMARY

Senior Software Engineer with 10+ years of software engineering experience shipping production backend systems, distributed applications, and AI platforms across Python and TypeScript. IIM Indore alumnus with prior industrial operations experience (NTPC), bridging engineering depth with real domain expertise.

DISTRIBUTED SYSTEMS & AI HIGHLIGHTS

- Built RAG research platform indexing **2M+ documents** and processing **50K+ semantic searches/month** across **60 enterprise customers**.
- Reduced search infrastructure cost by **95%** by replacing Algolia with ChromaDB vector search, maintaining production SLA performance for **80 GB** of data.
- Architected OAuth integration framework supporting **50+ SaaS platforms** and powering authentication for **200 customer accounts**.
- Architected **multi-tenant SaaS platforms** with RBAC, offline-first sync, and real-time data pipelines.
- Built a reusable integration platform adopted across **50+ SaaS connectors** and **200 customer accounts**, cutting new-integration build time by **60%** and turning one-off work into product leverage.
- Published **17 long-form engineering articles** on RAG pipelines, OAuth patterns, and multi-tenant architecture, and drove engineering review standards and delivery practices across teams of **5-20 engineers**.

CORE SKILLS

Languages	Python, TypeScript, JavaScript, SQL, Dart; Java, Kotlin, Swift, Rust (prior professional experience)
Backend & APIs	Node.js, NestJS, FastAPI, Express.js, REST, GraphQL, Prisma ORM
Databases & Storage	PostgreSQL, MySQL, MongoDB, DynamoDB, Firebase (Realtime DB & Firestore), FaunaDB, Redis, Amazon RDS, Redshift, Snowflake, CosmosDB, ChromaDB
Cloud & Infrastructure	AWS (Lambda, API Gateway, SQS, SNS, Step Functions, Batch, Amplify, CloudFormation, SES), Heroku, Vercel, Docker, CircleCI, Jenkins
AI / ML	LLMs (OpenAI, Anthropic, DeepSeek), RAG, Vector Search, Function Calling, Prompt Engineering, Structured Outputs, TensorFlow
Frontend & Mobile	React, Redux, Next.js, Material UI, Auth0, Flutter, React Native
Testing & Observability	Cypress, Jest, Enzyme, Selenium, Detox, Playwright, Sentry, Segment, FullStory, Gleap
Auth, Payments & Real-time	Auth0, OAuth 2.0, RBAC, Stripe Connect, Plaid, WebRTC, Socket.io

TECHNICAL LEADERSHIP

- 10+ years of software engineering** delivering cloud-native and AI-powered software platforms.
- Set technical direction and owned system design for products from 0→1 through scale across backend, AI, and full-stack surfaces.
- Led engineering teams of **5-20 engineers** across product and cross-functional work, and mentored developers through code review and architecture guidance.
- Established CI/CD, testing, observability, and incident-readiness practices adopted as team standards rather than one-off fixes.

PROFESSIONAL EXPERIENCE

RFQTrace

Founding Engineer

Mar 2026 – Present

Next.js · TypeScript · Firebase Auth · Firebase Admin SDK · Dexie.js · Vercel

- Designed and built a multi-tenant RFQ platform solo — organisation-level data isolation, RBAC across **5 roles**, offline-first caching (Dexie.js + Firebase Realtime DB) for low-connectivity plant floors. Live at rfqtrace.com.

Independent

Independent Software Engineer

2025 – 2026

Astro · React · TypeScript · Firebase · Playwright

- Published **17 long-form engineering articles** (RAG pipelines, OAuth patterns, multi-tenant architecture, offline-first sync); built and shipped mishhy.com (Astro, React, Firebase, Playwright); researched the procurement tooling gap that became RFQTrace.

Revfx, San Francisco

Sr. Full Stack Engineer

May 2023 – May 2025

NestJS · FastAPI · Prisma · PostgreSQL · RDS · Redis · Temporal · Airflow · AirByte · Redshift · ChromaDB | React · Redux · Auth0 · Cypress · Sentry · Segment

- Built a **RAG-based research copilot** on ChromaDB and CosmosDB indexing **2M+ documents** and processing **50K+ semantic searches/month** across **60 enterprise customers**; iterated on chunking strategy and retrieval latency for production throughput.
- Reduced search infrastructure cost by **95%** by replacing Algolia with ChromaDB-based vector search, supporting semantic retrieval across enterprise datasets while maintaining production SLA performance.
- Reduced **300 GB Redshift** warehouse size by **40%** through idempotent hashing to deduplicate ingested SaaS data; cut DB read load by introducing a Redis caching layer.
- Architected a reusable **OAuth infrastructure library** supporting **50+ SaaS integrations** (Salesforce, Outreach, Salesloft, HubSpot, Segment, Gmail, Google Calendar), powering auth for **200 customer accounts** and reducing new integration time by **60%**.

- Designed production AI workflows (OpenAI, Anthropic, DeepSeek) with structured outputs, function calling, and multi-step orchestration for sales lead generation, hiring signals, and lookalike account identification.
- Delivered **production-ready frontend within 3 months**, onboarding the first enterprise client; improved **LCP by 40%** through code splitting and asset optimisation. Established e2e testing (Cypress), monitoring (Sentry), and analytics (Segment, FullStory).

Loot Discount Inc, Canada

Full Stack Engineer

Feb 2022 – Apr 2023

FaunaDB · Snowflake · AWS API Gateway · Lambda · Step Functions · SQS · SNS · Stripe · Plaid · CloudFormation | React · Auth0 · Algolia · CircleCI · AWS Amplify

- Designed AWS serverless architecture (API Gateway, Lambda, SQS, SNS) processing **500K+ API requests/month** across **1,000+ users**, reducing infrastructure costs by **30%** with CloudFormation automation.
- Built FaunaDB APIs achieving **sub-200ms query latency**; orchestrated dev-to-prod data migration via AWS Step Functions; managed **50 GB** analytical dataset in Snowflake.
- Integrated **Stripe Connect** (registration, transfers, payouts, webhook events) and **Plaid** (bank/card connections, financial transaction webhooks) for the full payment lifecycle.
- Improved search speed **3x (200%)** by implementing Algolia with custom-tuned indexes for the product catalogue; improved frontend **LCP by 40%** through lazy loading and bundle optimisation.

R Systems International, Noida

Project Leader

Nov 2020 – Nov 2021

React Native · Flutter · Python · TypeScript · Jest · Enzyme · Detox · CircleCI · Jenkins

dotstudioPro — OTT Video Distribution (AVOD / SVOD / TVOD)

- Led a team of 5 delivering a white-label OTT video platform; increased streaming engagement by **25%**; built e2e test automation (Jest, Enzyme, Detox, CircleCI), cutting new-partner turnaround by **10%**.

Invoice Simple — Small-Business Invoicing App

- Refactored production React Native codebase from class-based to hooks-based components; improved Play Store **5★ rating by 10%**, App Store by **8%**, reduced bug report rate by **10%**, and improved maintainability by **15%**.

Learning People — Online Training Platform

- Delivered cross-platform app (web / Android / iOS) with Flutter frontend and Python backend, reducing operational cost by **15%** by bringing launch forward **2.5 months** without additional headcount. Trained and mentored 2 team members.

Kintry, Delhi

Senior Full-Stack Developer / Tech Lead

Jun 2016 – Oct 2020

React · Node.js · Python · Flutter · Java/Kotlin · Swift · WebRTC · Socket.io · TensorFlow · Firebase · AWS Lambda · Heroku

- Designed end-to-end architecture; shipped **5 mobile apps** reaching **50K+ downloads** and built a Node.js backend (Heroku, AWS Lambda) — REST APIs, payments, live video, chat, microservices.
- Built a **WebRTC**-based conferencing platform supporting **50 concurrent users** with sub-second signaling latency; built a web-store achieving **10% weekly growth**.
- Led a cross-functional **team of 10**; implemented ML models (**TensorFlow**) for inventory management.

VResolve Softech Pvt Ltd

Manager — Marketing → Career Transition

2014 – 2016

- Product marketing and sales operations for a multi-platform product (2014–2015); transitioned to software engineering through self-directed study of frontend development — JavaScript, React, CSS (2015–2016).

NTPC Ltd

Operations Engineer

2010 – 2012

- Managed **₹150 crore (~USD 25M)** vendor procurement and negotiated daily fuel supply of **2–4.2 MMSCMD (~USD 590K/day)** for a 652 MW gas-fired power plant.
- Led a **20-person team** maintaining 22,000 pieces of plant equipment; cut demineralised water wastage by **8%** through cross-plant benchmarking.

PROJECTS

Visual Website Builder — Config-driven drag-and-drop builder — 27 widgets, 4 renderers, one JSON tree as source of truth, Stripe-powered claim flow, batch site generator (Astro, React, TypeScript, Zustand, Tailwind).

ComplianceTrack Pro — Certification and skills tracking platform for manufacturing floors — expiry alerts, audit trails, role-based dashboards.

DeepSeekGen — VS Code extension for AI code generation (DeepSeek/OpenAI APIs) — prompt-based editing and intelligent completions.

EDUCATION

Indian Institute of Management, Indore — Post Graduate Diploma in Management (2012 – 2014)

Madan Mohan Malviya Engineering College, Gorakhpur — B.E. Mechanical Engineering (2006 – 2010)