Karan Bhalodiya

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SUMMARY

Results-driven Lead Software Engineer with 12+ years of experience, including significant tenure in high-growth, product-based startups and 0-to-1 platform builds. Proven track record of architecting scalable distributed systems, driving engineering productivity, and leading high-performing teams in fast-paced environments. Adept at bridging the gap between complex technical execution and strategic product goals to deliver user-centric features and millions in rapid revenue growth.

SKILLS

Infrastructure: AWS, GCP, Kubernetes, NGINX, Gitlab, Docker, Kafka, RabbitMQ, Heroku, Jenkins
Backend, Frontend, Protocols: Python, NodeJS, Java | ReactJS, CSS, HTML | REST, GraphQL, gRPC
Datastore: PostgreSQL, MongoDB, MySQL, Redis
Certifications: AWS Developer Associate
AI/ML Tools & Models: OpenAI GPT-5o, Claude (Anthropic), Gemini Pro, claude-code, gemini-cli | Pinecone, pgvector | GitHub Copilot, Cursor

WORK EXPERIENCE

Lead Software Engineer | **Pelago by Singapore Airlines** | Singapore | Apr 2020 – Present
Led multiple high-performing engineering initiatives across the Pelago platform from its inception, encompassing the core transactional system (0-to-1 build), global marketplace expansion, and user retention/growth features.
Tech: Python, Flask, Celery, Redis, PostgreSQL, AWS ECS, Ansible, CircleCI, ElasticSearch, Apollo GraphQL, Firebase

- **Led a team of 5 engineers** to design and deliver customer retention and growth systems, increasing annual retention from ~1% to **8–10% (10× improvement)**.
- **Built revenue-generating growth loops** (referrals, gift cards, affiliate APIs), contributing **$1M+ GMV** in FY 2024–2025.
- **Architected a distributed communication platform** integrating SendGrid, Twilio, and Firebase:
  - Handled high-volume multi-channel notifications
  - Implemented retry, idempotency, and failure recovery mechanisms using Kafka, pubsub
  - Improved delivery reliability and reduced notification failures significantly
- Designed **event-driven workflows** using Celery + Redis to process ~50K+ async jobs/day with ~200ms processing latency.
- Led **LLM-based feature development** (itinerary generation, content automation):
  - Reduced manual content effort by **60%**
  - Improved feature delivery speed by **2×**
- Introduced **AI-assisted engineering workflows** (code review, test generation, security checks), improving team throughput by **35%**.
- Owned **technical roadmap**, collaborating with product and business stakeholders to align engineering with growth objectives.
- Led integration of **multiple global inventory providers** (BeMyGuest, GlobalTix, Rezdy, Viator):
  - Enabled platform expansion to **60+ countries**, **3,200+ destinations**, and **190K+ products**
- Designed and implemented a **personalised promotion engine**:
  - Applied ML-driven targeting strategies
  - Increased bookings **30×** over **6 months** post-launch
  - Reduced promo/coupon code abuse by **30%**
- Improved system scalability and performance by optimizing API orchestration and caching strategies.
- Designed and built a **state-machine-based booking and payment system**:
  - Handled complex multi-step transactions with strong consistency
  - Integrated Stripe and KrisFlyer Miles wallet
- Developed a **multi-currency checkout system** supporting 12+ currencies, enabling global market expansion.
- Built a **distributed task processing system** using Celery:

- Handled thousands of background jobs daily
- Improved system reliability and reduced latency under peak load

Sr. Software Engineer (Engineering Productivity) | **DataRobot** | Singapore | Mar 2019 – Apr 2020
Joined to build an internal developer platform as DataRobot scaled to 500+ engineers globally; focused on CI/CD reliability, cost optimisation, and developer tooling.
Tech: Java, Spring Boot, Vue.js, PostgreSQL, Redis, AWS Lambda, API Gateway, DynamoDB, Jenkins

- Built an **automated code review workflow system** on AWS Lambda (Java), integrating Jira, GitHub, Jenkins, and Slack:
  - Reduced PR review time from **72 hours → less than 24 hours**
  - Responsible for improving the productivity of engineering teams by building tools and automation around the development workflow.
  - Built an automation around Slack, Jenkins, Jira, and GitHub
- Designed **cost optimization workflows**:
  - Collaborated on engineering initiatives to **reduce AWS expenditure by ~40%** through the development of internal productivity tools and automated dev workflows.
  - Refined **CI/CD pipeline logic** to trigger test execution solely upon review readiness, driving a **substantial reduction** in infrastructure overhead.
  - Developed a **flake detection and quarantine system**, optimizing test cycles and slashing infrastructure expenditure by **~$750/day**.
- Built developer-facing tooling and dashboards (Spring Boot APIs + Vue.js front end) for build health, PR status, and flake visibility

Software Engineer | **Shopback** | Singapore | Apr 2018 – Feb 2019
Designed & developed microservices-based RESTful APIs using NodeJS and MongoDB as a database for Shopback GO.
Tech: Node.js, MongoDB, AWS ECS, Docker

- **Mobile platform backend:** Designed microservices-based RESTful APIs for the Shopback GO mobile platform, supporting millions of daily transactions at launch.
- **Code quality:** Created a reusable shared module library and enforced standards via code reviews — maintaining 94%+ code coverage.

Solution Engineer | **eInfochips (an Arrow Company)** | Ahmedabad, India | Oct 2016 – Mar 2018
Tech: Java, Spring Boot, MySQL, Redis, Jenkins, React

- **Release velocity +60%:** Introduced Git flow, Docker containerisation, and full CI/CD pipelines, accelerating release velocity by 60%.
- **Monolith → microservices:** Led migration from a monolithic architecture to microservices, cutting deployment time by 3× and enabling faster feature releases.

Software Engineer | **Azoi Inc.** | Ahmedabad, India | Jun 2012 – Oct 2016
Tech: Python, Flask, React, Celery, Redis, PostgreSQL, Jenkins, Stripe

- **HealthTech APIs:** Built RESTful APIs (Flask, MongoDB, Celery, Redis) for a real-time health monitoring platform handling sensitive medical data.
- **Latency –300ms:** Optimised data transmission using Protobuf and gzip compression, reducing response time by ~300ms for real-time health data.

EDUCATION

- **MCA**, Visvesvaraya Technological University (VTU), Bangalore, India 2009-12
- **BCA**, Saurashtra University, Gujarat, India 2006-09