

VIJAY KHOT

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SUMMARY

Backend Software Engineer (M.S. Computer Science, 3.97 GPA) combining 8 years of operational engineering experience with modern technical expertise. Specializing in **Backend Architecture**, **Data Infrastructure**, and **ML Pipelines**. Proven ability to translate complex, real-world operational needs into scalable software solutions. Passionate about building the next generation of tools for the physical world (ConTech, Logistics, Operations).

SKILLS

- **Languages:** Python, TypeScript, JavaScript, SQL (PostgreSQL, MySQL), Java, PHP
- **Backend Engineering:** Node.js, FastAPI, Express, RESTful APIs, Microservices, Event-Driven Architecture, GraphQL
- **Data & ML Infra:** ETL Pipelines, Redis Caching, Docker, Data Modeling & Normalization
- **Cloud & DevOps:** AWS (EC2, S3, SES), CI/CD (GitHub Actions), Nginx, Linux/Unix

PROJECTS

Material Forecasting Engine (ML Infrastructure)

October 2025 – Present

Tech: Python (FastAPI), PostgreSQL, Redis, Docker, GitHub Actions

- Built a production-grade **ETL pipeline** to ingest and process construction material datasets, using **Python** and **SQL** to normalize data for predictive analysis.
- Implemented a **FastAPI** backend with **Redis** caching to reduce API latency for forecasting queries by ~40%.
- Dockerized the entire stack and established a CI/CD pipeline for automated testing and deployment.
- **GitHub:** github.com/vijaybkhot/material-forecasting-engine || **Live App:** forecasting.vijaykhot.com/ || **Video Demo**

Permit Workflow Service (Backend Architecture)

Sept 2025 – Present

Tech: Node.js, TypeScript, Fastify, PostgreSQL, Prisma, Redis, BullMQ

- Architected a backend service to model complex regulatory workflows using a guarded state machine, ensuring only valid state transitions and making the permit process auditable and code-driven.
- Implemented an asynchronous job queue (**BullMQ**) to handle heavy document generation tasks without blocking the main event loop, keeping API response times low.
- **GitHub:** github.com/vijaybkhot/permit-workflow-service || **Video Demo**

Outreachly (SaaS Platform)

Sept 2025 – Present

Tech: Next.js, TypeScript, PostgreSQL, Prisma, AWS SES

- Architected a multi-tenant email marketing platform integrating **AWS SES** for high-deliverability transactional messaging.
- Implemented **ACID transactions** to ensure data consistency during bulk operations and complex relationship mapping.
- **GitHub:** github.com/vijaybkhot/outreach-app

EXPERIENCE

Software Developer (Volunteer), The Chad Foundation, Remote

Oct 2025 – Present

- Architecting a serverless payment system using **Node.js** and **Stripe**, replacing manual payment workflows and reducing reconciliation time for staff.
- Designing backend logic for idempotency, webhook verification, and failure recovery to ensure 100% transactional reliability.

Software Developer (Volunteer), JerseySTEM, Remote

August 2025 – Present

- Architected a decoupled **Event-Driven pipeline** using custom **PHP middleware** and the WordPress Action Scheduler to reliably transmit asynchronous JSON payloads to Salesforce.
- Led a strategic migration from **Zapier** to **Make.com**, reducing API costs by 40%, and conducted technical feasibility analysis (Spikes) to guide long-term architectural decisions.

Project Engineer, Ichalkaranji Municipal Corporation, Ichalkaranji, India May 2017 – June 2023

- Managed the full lifecycle of six large-scale infrastructure projects (604 housing units), overseeing **technical documentation**, compliance, and **operational data** between field teams and central offices.
- Used Python and Excel to automate financial and progress reports, reducing manual reporting time and improving data accuracy for decision-makers.

EDUCATION

Stevens Institute of Technology, Hoboken, NJ

Sept 2023 – May 2025

Master of Science in Computer Science – GPA: 3.97/4.00

College of Engineering, Pune, India

Aug 2013 – May 2015

Master of Technology in Construction & Management