Vijay Khot

vijay@vijaykhot.com · New York City Area · linkedin.com/in/vijay-khot · github.com/vijaybkhot · www.vijaykhot.com

Summary

Computer Science grad (M.S., 3.97 GPA) with 7 years of Civil engineering experience, now building **AI-driven solutions for the ConTech industry**. Proven elite problem-solver (650+ LeetCode) and backend engineer with expertise in **Python (FastAPI)**, **TypeScript (Node.js), and AWS**. Eager to leverage deep domain knowledge of **construction documents and workflows** to build next-generation platforms.

Skills

- **Languages & DBs:** TypeScript, JavaScript, Python, Java, SQL, PostgreSQL, MongoDB (Geospatial Queries)
- **Frontend:** React, Next.js, Leaflet / Mapping APIs, TypeScript, SSR, Performance Optimization
- **Backend & Systems:** Node.js, FastAPI, Express, REST, GraphQL, Prisma, Redis, BullMQ
- **Tools & Infra:** AWS (EC2, S3, SES), Docker, Nginx, CI/CD (GitHub Actions), Prometheus (metrics), Vercel
- **Data Analytics:** Python (Pandas, NumPy), ETL Pipelines, Feature Engineering, Operation Research

Experience

Software Developer (Volunteer), The Chad Foundation, *Remote*   *Oct 2025 – Present*
- Architecting and developing a new full-stack payment and donation system using **React, Node.js**, and **Stripe**.
- Led technical planning, researched competitor solutions, and presented a secure, scalable serverless architecture.

Project Engineer, Ichalkaranji Municipal Corporation, *Ichalkaranji, India*   *May 2017 – June 2023*
- Led execution of six government housing projects from inception to completion (604 families); drafted proposals, secured approvals, and managed construction processes.
- Utilized Python (NumPy, Pandas) and Excel for data analysis to improve reporting accuracy, overseeing subsidy disbursement and coordinating across 13 district teams as District Nodal Officer.

Freelance Civil Engineer, Self-Employed, *Ichalkaranji, India*   *Nov 2015 – May 2017*
- Secured contracts and obtained Permit approvals from Town Planning authorities for over 100 residential housing projects.

Projects

Permit Workflow Service (ConTech Domain)   *October 2025 – Present*
Tech: Node.js, TypeScript, Fastify, PostgreSQL, Prisma, Redis, BullMQ, Docker, prom-client
- Architected a backend service to model the complex lifecycle of construction permits, leveraging my 7 years work experience.
- Implemented a state machine for permit transitions, a rule engine for compliance, an async worker (BullMQ), and exposed **Prometheus-compatible metrics**.
- Github: github.com/vijaybkhot/permit-workflow-service · Live Demo

Material Forecasting Engine (AI/ML)   *October 2025 – Present*
Tech: Python (FastAPI), Next.js, PostgreSQL, Redis, Docker, Heroku, Vercel, GitHub Actions
- Architected a production-grade **ETL pipeline** and time-series forecasting API using **Python (FastAPI)**, PostgreSQL, and Redis for caching; built a responsive dashboard with Next.js.
- Engineered a full **CI/CD pipeline** using **GitHub Actions** for automated testing and deployment to **Heroku** and **Vercel**, implementing automated **Alembic migrations** and data ingestion scripts during release phases.
- GitHub: github.com/vijaybkhot/material-forecasting-engine · Live Website: material-forecasting-engine.vercel.app

Email Outreach Platform   *Sept 2025 – Present*
Tech: Next.js, TypeScript, PostgreSQL, Prisma, AWS SES
- Architected the end-to-end development of an email marketing platform, integrating **AWS SES** for production-grade deliverability and solving email authentication issues (SPF, DKIM).
- Github: github.com/vijaybkhot/outreach-app

Education

Stevens Institute of Technology, Hoboken, NJ   *Sept 2023 – May 2025*
Master of Science in Computer Science – GPA: 3.97/4.00
- **Honors:** Provost's Merit Scholarship ($14,000)
- **Relevant Coursework:** Mathematical Foundations of Machine Learning, Database Mgmt. Systems, Web Programming

College of Engineering, Pune, India   *Aug 2013 – May 2015*
Master of Technology in Construction & Management
- **Relevant Coursework:** Operation Research, Project Economics Finance, Construction Cost Dynamics