

Vivek Agrawal

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Overview

Full-stack engineer who thrives in taking responsibility **end-to-end** — from understanding an ambiguous problem to deploying the code to production. I recently built [ListenUser](#) all by myself — a B2B customer support tool built with Django and Vue 3. I deeply believe in **keeping things simple** as it leads to **easier maintenance** in the long-term.

Skills

Backend proficiency: **Python, Django, PostgreSQL, Concurrency, RESTful APIs.**

Frontend proficiency: **Vue, JavaScript, CSS, UX Design.**

Infrastructure proficiency: **Docker, Nginx, Linux.**

Working knowledge of **C and C++.**

Experienced with **utilizing LLMs** via **Cursor** to help with planning & implementation of product features.

Work Experience

Founder (Jan 2025 — Aug 2025 • 8 months)

ListenUser • Remote • Full-time

- Designed the frontend UX of [ListenUser](#) and built it with Vue 3 in component-driven Vue SFCs. Developed the backend (WebSocket and RESTful APIs) on Django. Used Cursor with custom user rule and project rules to help develop features more efficiently.
- Deployed with a simple Docker based setup on Render and used Sentry for error monitoring of in-app support widget.

Founder (Mar 2024 — Oct 2024 • 8 months)

QA Rangers • Remote • Full-time

- Trying AutoGPT hit me with the vision of QA Rangers — an AI agent for development and maintenance of end-to-end UI automation tests.
- Read research papers on autonomous web UI agents to build a Proof of Concept. Published [an article on how I researched and built QA Rangers' PoC](#). In this journey I learned about ML fundamentals, LLM training process, embeddings, vector databases and multi-modality.

Full Stack Engineer (Jul 2023 — Mar 2024 • 9 months)

Junior Python Engineer (Sept 2021 — Jun 2023 • 1 year 9 months)

Learning Equality • Remote • Independent Freelance Contract

- Led the investigation of a critical search query timing out on a large PostgreSQL table (millions of rows). Co-designed a new table with full-text search and GIN indexes, resulting in an optimized query that prevented timeouts. Here's [the PR that introduced full text search to the backend API](#) and [this PR introduced the new models](#).
- Analysed the query plan for inserting millions of tsvectors to a PostgreSQL table and optimized the query to [reduce the estimated insertion time from 8 months to 8 hours](#) approximately.
- Helped design a deployment architecture in Ray to handle pre-processing, post-processing and scalable computation of an internal embeddings model for recommendations.
- Experienced working on offline-first architecture (using IndexedDB) and synchronization of data between simultaneous clients and a central server.

Google Summer of Code 2021 Student Developer (Jun 2021 — Aug 2021 • 3 months)

Learning Equality • Remote

- Developed an [async task registry and custom Python decorator](#) to register long running functions for future processing. As a result, we were able to decouple around 20 async tasks from a large monolithic module to their own Django apps.
- Designed and developed an [API endpoint to enqueue async tasks](#) with custom validation. Also, [wrote the developer documentation for consumable APIs](#) and async task backend architecture.
- Simplified the [async task worker system](#) from three worker groups to a single worker pool based on priority of async tasks.

Open Source and Side Projects

- Co-developed a simpler version of [Yahtzee](#) dice game to teach algorithms in freeCodeCamp's curriculum v7.
- Built a CLI based [school management system in C++](#) as a high school project.
- Launched a [free course on public key cryptography](#). Received praise from Kent C. Dodds and Cassidy Williams.
- Built an AI tool to generate product changelog by passing git commit messages to an LLM.

Education

Bachelor's of Technology in Computer Science Engineering (2019 — 2023 • 4 years)

SSIPMT, Raipur