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.**
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.

➔ Designed and developed the in-app support widget in Vue 3 as a custom element (web component, no iframe mess), for users to provide in-app support by embedding the widget onto their own web app just by pasting a script.

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

➔ Built an AI tool to generate product changelog by passing git commit messages to an LLM.

➔ Co-developed a simpler version of Yahtzee dice game to teach algorithms in freeCodeCamp's curriculum v7.

➔ Contributed to MDN Web Docs by reviewing 30+ small PRs related to HTML and CSS content.

➔ Launched a free course on public key cryptography. Received praise from Kent C. Dodds and Cassidy Williams.

Education

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