Kumar Shivendu

Passionate about DevTools and Information Retrieval

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Skillset

Languages	Python · JavaScript · Java · Go · C++ · Bash · Rust
Frameworks	FastAPI · Express.js · Django · React · Material UI · Bootstrap · PyTest
Tools	Docker · PostgreSQL · Redis · Elasticsearch · AWS · Figma · Cypress

Experience

Qdrant: Software Engineer - Performance and Integrations
Oct. 2023 - Present
- Qdrant is the **fastest growing vector database with 13k stars, 40k docker pulls/day, and tens of thousands of deployed instances**.
- Helping **battle-test our software and cloud for billion+ scale** and maintaining integrations with the ML ecosystem (Langchain, Llamaindex)

SuperTokens (YC 20): Software Engineer
Mar. 2022 - Sep. 2023
- SuperTokens is an authentication devtool with 10k+ Github stars, 2.5M docker pulls, and multiple thousand B2B and B2C SaaS customers.
- **Architected our most requested enterprise features - multi-factor authentication (MFA) and Time-based OTP (TOTP)**
- Implemented authorization (RBAC), multitenancy, MFA, and TOTP features in our Python and Node.js SDKs
- Built internal analytics dashboards for telemetry data from CLI, SDKs, and Core backend

FamPay (YC 19): Software Engineer Intern
Sep. 2021 - Mar. 2022
- FamPay is India's first numberless card and payments app for teenagers with **10M+ users** on the platform.
- Refactored code and unit + integration tests related to UPI payments, KYCs, and asynchronous celery batch jobs.
- Researched the bottlenecks in our AWS Redshift setup and the ways to optimize it for better resource utilization on **tables with 1B+ rows**.
- **Saved 50k$+ annually on Anomaly Detection using an open-sourced tool**: Chaos Genius (YC 20) instead of Anodot or AWS Cloudwatch.

Software Heritage: Google Summer of Code Student
May. 2021 - Aug. 2021
- Software Heritage (SWH) is an organization under Inria (Paris) to collect and preserve all of the open-source software that has ever existed.
- Developed **advanced metadata search features on top of 250M+ public software repositories containing 16 Billion+ source code files**
- Created workers to ingest metadata from 250M+ software repos from Kafka and RPC APIs of multiple services into the Elasticsearch cluster.
- **Designed a custom search query language** and wrote a transpiler that **converts the Abstract Syntax Tree (AST) into Elasticsearch queries**.
- Implemented autocompletion for the custom query language in the web interface using WebAssembly, Javascript, CSS, and Django.
- Wrote unit and integration tests using Pytest and Cypress for multiple services while maintaining 100% test coverage.

Logy.AI: Software Engineer Intern
Feb. 2020 - Jul. 2020
- Developed the **appointment booking portal for Colgate MyToothDoc platform** using Django. (100k+ users)
- Revamped the internal image data annotation platform using Django and javscript libraries.
- Doubled the speed of the malaria detection APIs by implementing an OpenCV-based blurry microscopic image detector.
- Developed a **bridge service using web sockets to interlink Whatsapp chatbots with our customer support dashboard in realtime**.

IIT Mandi: Machine Learning Intern
May. 2019 - Jul. 2019
- Trained ML models using Keras and Tensorflow to forecast network usage time-series data.
- Developed the foundation for our **research paper that got accepted by IEEE**.

Side Projects

Open source contributions @ Software Heritage
- Created crawlers to ingest code from Fedora packages, Gitea, Gogs, and Hex.pm (Erlang package manager).
- **Mentored an intern as a GSoC mentor** during Google Summer Of Code 2022
- Received **Open Source Peer Bonus award from Google for my contributions**
- Teck Stack: Python, RabbitMQ, Kafka, Django, Docker

Technical blogs
- In-depth look at ACID properties of Postgres Link
- Exploring Data Structures in Redis Link
- Python Unit testing best practices Link
- Monitoring my life with Grafana, Prometheus, and InfluxDB Link

Open Source projects and contributions
- doctree: A parser-based documentation generator for any language with symbol search. Written in Go (850+ stars on Github)
- vscode-advanced-search: VSCode Extension for bulk search/refactor that's more powerful than regex. **Winner in FOSS United Hackathon**
- search-copilot: Chrome extension that scrapes search results on any website for semantic search using GPT embeddings
- ann-benchmarks: **First person to benchmark Vector databases (Qdrant vs Pgvector) on OpenAI embeddings at 1M scale**. Creators of Yahoo Search, Github Copilot, Spotify recommendation engine, and Supabase noticed my work on Twitter!

Education

Indian Institute Of Technology (IIT) Bhilai
Bhilai, India

BACHELOR OF TECHNOLOGY IN COMPUTER SCIENCE AND ENGINEERING
Jul. 2018 - May. 2022

CGPA : 8.2/10.0