

# Kumar Shivendu

I love Information Retrieval and Software Performance

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## Skillset

**Languages** Python · Rust · JavaScript · Java · Bash · C++ ·  
**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 18k+ 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)
- **Built the infrastructure for Chaos testing and Continuous benchmarking** which caught many unexpected bugs and perf degradations early

### 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+ app downloads.
- Worked on multiple features like UPI payments, KYCs, and asynchronous celery batch jobs.

### 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.

### 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 javascript libraries.
- Doubled the speed of the malaria detection APIs by implementing an OpenCV-based blurry microscopic image detector.

### 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

### Tech talks

- Improving search relevance using reranking and fusion @ Tensorflow Bangalore Meetup [Link](#)
- Qdrant: Future of search and beyond @ FOSS United Bangalore Meetup [Link](#)

### Technical blogs

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

### 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**

### 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 OpenAI embeddings at 1M scale using Vector databases (Qdrant vs Pgvector).** Creators of Yahoo Search, Github Copilot, Spotify recommendation engine, and Supabase reacted to 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