

# Kumar Shivendu

Passionate about DevTools and Information Retrieval

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## Skillset

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

## Experience

### DevTools Engineer @ SuperTokens (YC 20)

Mar. 2022 - Present

- SuperTokens is a customizable authentication devtool with **9k+ stars on GitHub** and **thousands of SaaS companies as 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

### Software Engineer Intern @ FamPay (YC 19)

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.

### Google Summer of Code Student @ Software Heritage

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 240M+ public software repositories containing 15 Billion+ source code files**
- Created workers to ingest metadata from 240M+ software repos from Kafka and RPC APIs of multiple services into the Elasticsearch cluster.
- **Designed a custom search query language** and wrote a translator 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.

### Software Engineer Intern @ Logy.AI

Feb. 2020 - Jul. 2020

- Developed the **appointment booking portal for Colgate MyToothDoc service** using Django. (100k+ users)
- 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**.

### Machine Learning Intern @ IIT Mandi

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

### Activity-Tracker

- An ecosystem of applications that continuously track and track time spent on browsers, IDEs, desktop, and mobile apps
- Tech Stack: NodeJS, Electron, Flutter, MongoDB, React, Material UI

### Open source contributions @ Software Heritage

- Created crawlers to ingest code from Fedora packages, Gogs, and Hex.pm (Erlang package manager).
- Mentored an intern 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](#)

### 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, and 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