# Kashiful Haque

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Engineer building production-grade AI systems; I have deployed fine-tuned LLMs (and vLLM for inference) into live infra, designed multi-service discord bots with redis/postgres state and delivered reverse image search on the fly during interviews. Experienced in end-to-end ownerships; model training  $\rightarrow$  scalable infra (docker, k8s)  $\rightarrow$  API delivery. My work has been used by hundreds and integrated into customer facing apps.

# Work Experience

American Express (via IntraEdge)

Bengaluru, India

Engineer III

02/2025 - Present

- Built CC Listener module for Bridge Intelligence, capturing real-time CCs captions for thousands of Webex meetings, streaming them into Redis for downstream summarization using GPT-40.
- Deployed CC Listener to Amex's Hydra platform (RedHat OpenShift) across dev, QA, and pre-prod using Helm, Jenkins, and Docker; navigated complex internal infra and CI/CD pipelines.
- Built a hybrid semantic + fuzzy (trigram) retrieval system over 2M+ Confluence pages (runbooks); reduced latency from 30s (native search) to under 2s.
- Designed a multimodal runbook generation pipeline using GPT-40, converting raw incident data (text + screenshots) into standardized Confluence pages.

Fiery (an Epson company, formerly EFI)

Bengaluru, India

Associate Software Engineer

07/2023 - 02/2025

- Fine-tuned Mistral-7B using QLoRA on 4070 Ti Super to incorporate internal documentation and company workflows.
- Deployed the fine-tuned model via vLLM on an NVIDIA T4 cluster; leveraged dynamic batching and quantized inference for sub-second 95th-percentile latency (TTFT).
- <u>Led development of "Beacon"</u>, a print-request automation tool powered by a fine-tuned ModernBERT NER model; parsed email and chat inputs to trigger document workflows. Demoed at Printing United 2024, Las Vegas
- Built AskDB, an AI agent used by 300+ internal users; used llama 3.1 to translate business queries into SQL with 90%+ accuracy, in turn generate business reports.

Fiery (an Epson company, formerly EFI)

Bengaluru, India

Internship

01/2023 - 07/2023

Corteva Agriscience

Hyderabad, India

Internship

07/2022 - 12/2022

## **Projects**

NoPokeDB: a Lightweight Vector Database • <u>github</u> • <u>pypi</u> • <u>blog</u>

- Designed a disk-backed vector db in Python using hnswlib for ANN search and SQLite for metadata.
- Added durability via a write-ahead oplog with crash recovery; supported batch inserts, auto-resize, CRUD.
- Has over 2K total PyPI downloads!

Mini-Numpy in Rust • github

• Implemented a lightweight NumPy clone in Rust with Python bindings to deeply understand tensor internals and performance optimizations in ML frameworks.

Boo: AI-powered Discord Bot • github • deepwiki • blog

- Architected a multi-service AI bot running as a Docker Compose stack with multiple services.
- Features: conversational AI (LLMs), image analysis & generation, weather, GIF & HN search via function/tool calling.

### Education

IIT Madras BS, Data Science and Applications

2020 - 2024

#### Skills

- python, typescript, golang, rust, c++, sql
- fastapi, docker, k8s, vllm, ollama, huggingface, peft, qlora
- pytorch, numpy, pandas, sklearn, spacy, cuda, redis, vector db