# Kashiful Haque

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Applied ML Systems Engineer; bridging models with production infra. Experienced in fine-tuning LLMs, optimizing inference (vLLM, quantization, batching) and building scalable AI-powered applications (Docker, K8s, Redis, Postgres). Proven track record of deploying research into production systems, adopted across teams organization wide.

## work experience

**American Express (via IntraEdge)**                                        *Bengaluru, India*
*Engineer III*                                                              02/2025 – Present
- Architected a low-latency streaming infra (Redis + GPT-4o summarization) for thousands of meetings; deployed to RedHat OpenShift (Amex Hydra) with Helm/Jenkins.
- Built a hybrid semantic + trigram retrieval system over 200K+ Confluence pages (runbooks); reduced latency from 30s (native search) to under 2s.
- Designed a multimodal runbook generation pipeline using GPT-4o, 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 for enterprise knowledge injection, incorporated into a RAG pipeline.
- Built efficient inference at scale via vLLM on NVIDIA T4 cluster; leveraged dynamic batching and quantized inference for sub-second 95th-percentile latency (TTFT).
- Led development of "Beacon", 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 agentic AI system for natural language → SQL, adopted by 300+ active users across departments.

**Fiery (an Epson company, formerly EFI)**                                  *Bengaluru, India*
*Internship*                                                                01/2023 – 07/2023
- Built a product mockup generation system using ImageMagick. read blog here

**Corteva Agriscience**                                                     *Hyderabad, India*
*Internship*                                                               07/2022 – 12/2022
- Migrated old Flask monolith API to microservices architecture to speed up deployments.

## projects

NoPokeDB: a Lightweight Vector Database • github • pypi • blog
- 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.
- 2K+ PyPI downloads!

Mini-Numpy in Rust • github
- Implemented a lightweight NumPy clone in Rust with Python bindings, exploring numerical backend design for ML frameworks.

Boo: AI-powered Discord Bot • github • deepwiki • blog
- Architected a multi-service infra with LLM orchestration for an AI bot.
- 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

- pytorch, huggingface, peft, qlora, vllm, ollama, vector db, embeddings, inference optimization, cuda
- python, go, rust, fastapi, docker, k8s, redis, postgres, sql, helm, jenkins