

Akshay Bhat

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EXPERIENCE

SOFTWARE DEVELOPER INTERN | [Unify Ivy\(YCW23\)](#)

Jun 2023 – Nov 2023

- Implemented and optimized **Audio Spectrogram transformer** and **Repnet** model for mobile devices using graph compiler.
- Implemented **torch mobile** support for Ivy's proprietary autotuner and added unit tests for it.
- Created a tool to expand variable arguments using Abstract syntax trees for torch compiler.

MACHINE LEARNING RESEARCH INTERN | [HALE](#)

May 2022 – Aug 2022

- Implemented a domain-specific pre-trained language model **BERT** for classifying self-reporting tweets as potential COVID-19 cases.
- Conducted experiments with various transformers on a dataset comprising over 18,000 tweets, addressing data imbalance through various augmentation techniques and improved the model by 9% from the base model.

PROJECTS

JAILBREAK | [Code](#) | Transformers, GPTQ, React, Flask, Jenkins, GCP, Kubernetes, Terraform

- Implemented a black-box prompt attacker architecture to get uncensored output from a LLAMA2 model.
- Utilized Mistral-7B as an attacker to predict prompts for jailbreaking the target model and employed the MAMBA model as a judge for calculating loss between the two models.
- Created a robust backend using flask and frontend using reactjs for seamless user experience.
- Deployed the architecture on GCP using Kubernetes and docker for scalability and reusability.
- Added github workflow to trigger jenkins workflow for continuous deployment of the architecture and terraform for automatic creation of containers.

BLOGGER | [Code](#) | NextJs, Typescript, TailwindCSS, Prisma, Axios, Clerk, Zod, Recoil, MySQL

- Developed and deployed a Next.js **blogging web app** for seamless article creation using markdown.
- Utilized Prisma ORM and MySQL for data storage with zod form validation.
- Managed admin state efficiently with recoil and employed tailwind for styling.

OtakuFlix | [Code](#) | NextJS, Express, ChakraUI, Mongodb, Redux, Firebase, GraphQL

- Developed a full stack anime streaming website using NextJS and Express.
- Scrapped the anime details using scrapy and stored them in mongodb database.
- Created GraphQL api to get scrapped data from mongodb database.
- Used redux-toolkit for state management of the application and authenticated using firebase.

Black Grimoire | [Code](#) | NextJS, Javascript, ChakraUI, MDX

- Built and deployed a digital **garden** application using NextJS and ChakraUI.
- Rendered the markdown files using mdx-remote by using script written in javascript to parse and index the markdown file into a JSON file.

EDUCATION

NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA

Bachelor of Technology, 2019 – 2023

Technical Skills

- Pytorch, Tensorflow, pandas, NumPy, React.Js, NextJS, Node.JS, Express, Flask, redux, recoil, Vite, ThreeJS, GraphQL, MySQL, MongoDB, Redis, Jenkins, Jest, Gatling, Selenium,
- Python, Java, JavaScript, TypeScript, SQL, HTML/CSS, C++
- Git, Linux, Docker, Vim, Blender, Terraform, Google Cloud platform, Google Kubernetes Engine, Ansible, Jira, Kafka
- Data Structures and Algorithms, Automation, Testing, Machine Learning.

Extracurricular activities

MCN Fellow-2022: Taught more than 30 students who come from poor backgrounds and led a drive for donating books and clothes to orphanages and old age homes