

VINEET KALGHATGI

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SKILLS

Web Technologies: React.js, Angular, Node.js, Next.js, Django, Flask, Flutter, Express.js
Languages: Python, Javascript, Java, Typescript, Go, Bash
Database: MySQL, PostgreSQL, MongoDB
Technologies/OS: Docker, Git, Linux, Kubernetes, Google Cloud Platform

PROJECTS

Digital Menu Manager [Link](#) | Next.js, React.js, TypeScript, Node.js, Express.js, MongoDB

- Built an intuitive menu management system, simplifying digital menu updates for restaurant owners, averaging **250** monthly visitors
- Designed an **authentication** system leveraging **Google Firebase** for secure login, signup, password retrieval and email verification

Data Volume Reduction [Link](#) | Python, Django, SQLite, Next.js, React.js, IBM Cloud

- Spearheaded development of a cloud-based application, envisioned in collaboration with **IBM** and the **Enterprise Neurosystem Group** that filters datasets through metadata of individual files resulting in lower bandwidth usage
- Developed a module that enabled seamless downloading, decompression, and indexing of datasets from diverse URLs, resulting in a robust API

Retrieval Augmented Generation (RAG) Chat-Bot | Apache Solr, Python, Flask, React.js, Gunicorn, Google Cloud

- Indexed **50000** documents to answer queries on **10** novels achieving fast retrieval with optimized search queries
- Leveraged **Large Language Models** to summarize retrieved documents achieving coherent responses
- Deployed **5 REST API microservices** facilitating faster integration and release

Inverted Index Search Engine | Python, Flask, Gunicorn, Google Cloud

- A search engine written in **Python (Flask)** leveraging an inverted index to rank documents on tf-idf scores
- Implemented **information retrieval** techniques to index a corpus of **5000** documents achieving sub **50 ms** latency

EXPERIENCE

University at Buffalo

Buffalo, NY

Research Assistant (NLP)

Feb 2024 - Present

- Integrated **sentiment analysis** capabilities into chat interface prototypes, to empower disabled individuals to engage effectively in conversations resulting in a **25%** increase in positive user feedback
- Developed custom mapping strategies to refine emotion labels, enhancing sentiment analysis predictions with a concise set of **6** distinct emotional categories
- Fine-tuned sentiment analysis models utilizing **Python, PyTorch** and **Large Language Models (BERT, RoBERTa)** to predict **6** nuanced emotion labels from conversational utterances

Tata Consultancy Services

Bengaluru, India

Software Engineer

Aug 2021 - Jul 2022

- Managed security operations using CA PAM, a privileged access manager, for a leading Swiss bank, resulting in smooth operations for over **4000** clients
- Collaborated with cross-functional teams from EMEA and APAC in resolving security issues that occurred during server onboardings. Utilized **SQL** to generate reports offering valuable business insights.
- Mentored colleagues, imparting expertise in **Bash** scripts and **Python** scripts, resulting in a **40%** decrease in troubleshooting time for live production servers
- Automated onboarding processes of HPiLO servers in bulk with **Python** scripts, leading to an outstanding **85%** reduction in processing times

Tata Consultancy Services

Bengaluru, India

Software Engineer Intern

Jul 2020 - Aug 2020

- Externalized data from Cucumber feature files with **Java** to a **MongoDB** Database resulting in centralized storage and a **45%** reduction in duplicated testing data
- Built a dashboard with **Angular, Typescript, Node.js** and **Express.js** providing an interface for test parameter management that eliminated redundant CSV files
- Innovated a test automation tool using **HTML, CSS, JavaScript, and Flask (Python)**, streamlining mobile app testing processes and saving the QA team **10** hours per week

EDUCATION

University at Buffalo, The State University of New York

Buffalo, NY

Master of Science in Computer Science, GPA : **3.7/4**

Aug 2022 - Dec 2023

Coursework: Blockchain, Pattern Recognition, Analysis of Algorithms, Fundamentals of Programming languages, Data Intensive Computing, Data models and query language, Project Management, Information Retrieval

Dr. Ambedkar Institute of Technology

Bengaluru, India

Bachelor of Engineering in Computer Science and Engineering, GPA : **8.84/10**

Aug 2017 - Jul 2021