VINEET KALGHATGI

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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

SKILLS

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

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 operations of CA PAM, a privileged access manager, for a leading Swiss bank, resulting in smooth operations for over 4000 clients
- Worked closely with **Java** development teams to understand new features, changes, and bug fixes, ensuring smooth deployment and minimal disruption to production environments
- Mentored colleagues, imparting expertise in server integration workflows, **Bash** scripts, and **Python** scripts, boosting team skill levels by 30% and decreasing troubleshooting time by 40%
- Optimized 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 data management that eliminated redundant CSV files
- Innovated an advanced automation tool using **HTML**, **CSS**, **JavaScript**, and **Flask (Python)**, streamlining mobile app testing processes and saving the QA team 10 hours per week

PROJECTS

Restaurant E-menu Link | Next.js, React.js, TypeScript, Node.js, Express.js, MongoDB
- Programmed an intuitive menu management system, simplifying digital menu updates for restaurant owners, averaging 250 monthly visitors
- Designed an **authentication s**ystem leveraging **Google Firebase** for secure login, signup, password retrieval and email verification

Retrieval Augmented Generation (RAG) Chat-Bot | Apache Solr, Python, Flask, 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

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
- Wrote a module that enabled seamless downloading, decompression, and indexing of datasets from diverse URLs, resulting in a robust API