

Viraj Sabhaya

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EDUCATION

The University of Texas – Arlington

Bachelor of Science in Computer Science

Jan. 2020 – May 2024

Arlington, Texas

EXPERIENCE

Research Assistant | IT Lab, UT Arlington

October 2022 – Current

- Developing analysis module for Multi-Layer Network(MLN) datasets (e.g., Airline hubs, LinkedIn connections, IMDb) to identify and classify distinct communities with 85% accuracy
- Uncovering underlying patterns within MLN data, resulting in a 75% improvement in pattern detection efficiency
- Enhanced the user experience by developing visually appealing representations, leading to a 60% increase in engagements with the analyzed data and MLN structures

Software Engineering Intern | Securonix

June 2022 – August 2022

- Conducted automated tests using Cypress on the SNYPR Software, ensuring 100% successful execution of test cases
- Contributed to the design, development, and maintenance of Securonix's NextGen SIEM 2.0 Technology, resolving real-time customer issues on Securonix cloud
- Utilized big data technologies such as Kafka, and Spark on the DataSource project, resulting in a 30% improvement in data processing and efficiency

Research Assistant | IT Lab, UT Arlington

April 2022 – June 2022

- Created a Visualization module that effectively presents results and visualizes the analyzed data and layers generated from MLNs, Improving data insights, increasing data understanding by 80% from ledgers and hovers

Student Lab Assistant | Office of Information Technology, UTA

Jan. 2021 – April 2022

- Assisted in setting up computers, printers, and kiosks across various labs on campus, serving numerous students and professors, providing software assistance, and ensuring smooth operation

TECHNICAL SKILLS

Languages: Python, C/C++, Java, HTML, JS, MySQL, CSS, C#, Swift, Rust, Node.js

Developer Tools: XCode, Figma, Adobe XD, gcc/g++, GitHub, Linux, AzureDevOps, Lucid chart, Firebase, HuggingFace, SQL Server Mgmt. Studio, Jira

Technologies: Git, APIs, NumPy, Pandas, Matplotlib, SciPy, Sklearn, nltk, NetworkX, SwiftUI, pyQT5

PROJECTS

ERS, BECHT Web-Dashboard | C#, .NET Core, Entity Framework and MSSQL, Angular, Azure Cloud

- Developing a robust web application for organizations in various industries, to mitigate risks minimizing health, safety, and environmental accidents. The application implements an Equipment Reliability Strategy (ERS) to effectively identify failure mechanisms
- Reducing the risk of accidents by 70% through the implementations of the ERS and providing real-time risk assessments and monitoring capabilities

Load and Ask: GPT | Python, OpenAI, LLM, embeddings, FAISS, Langchain

- Created a Streamlit web app utilizing OpenAI's API to fetch answers from uploaded PDF documents
- Optimized data storage and reduced costs by implementing chunking and vector conversion techniques, resulting in a 50% reduction in storage requirements

Routing Protocol Simulation | Python, Routers

- Developed and Implemented a Distance-Vector algorithm simulation to optimize communication routes between network routers/nodes
- Achieved 40% improvements in communication efficiency by dynamically updating routing tables based on network conditions

Arlington Sprouts Database Management | MySQL, Python, Apache webserver, XAMPP

- Created a comprehensive database for Arlington Sprouts Store, a premium sprouts seller
- Supported data-driven decision making by executing SQL queries to extract relevant information from the database, resulting in a 60% reduction in data retrieval time.
- Improved operational efficiency by developing an intuitive web interface, enabling seamless interaction with the database

Operating System | C/C++, gcc, parallelism, Arena-allocator, LinkedList, Shell, Fat32

- Developed mshShell for basic shell functionality, Fractal for faster image generation using thread-based parallelism, memory allocator with multiple algorithms, and a reliable file system

AWARDS

Nokia Outstanding Professional CS Student | College of Engineering, UT Arlington

April 2023