Viraj Sabhaya

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EDUCATION

The University of Texas – Arlington   **Jan. 2020 – May 2024**
Bachelor of Science in Computer Science   *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 actions with the analyzed data and MLN structures

Software Engineering Intern | *Securonix*   **June 2022 – August 2022**
- Contributed to design, development, and maintenance of Securoni's NextGen SIEM 2.0 Technology, resolving real-time customer issues on Securonix cloud
- Conducted automated test using cypress on the SNYPR software, ensuring 100% successful execution of test cases.
- Utilized big data technologies such as Kafka, and Spark on the DataSource project, resulting in a 30% improvement in data processing and efficiency by creating an automation tool for the QA team

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 hover functionality

Student Lab Assistant | *Office of Information Technology, UT Arlington*   **January 2021 – April 2022**
- Assisted in setting up computers, printers, kiosks across 4 labs on campus, serving numerous students and professors, providing software assistance, and ensuring smooth operations

TECHNICAL SKILLS

Languages: Python, C/C++, Java, HTML, JavaScript, CSS, C#, Swift, Rust
Developer Tools and Technologies: Figma, GCC/G++, GitHub, AzureDevOps, Lucid chart, Firebase, pyQT5, Hadoop, Git HuggingFace, SQL Server Management Studio, Jira, NumPy, Pandas, Matplotlib, SciPy, Sklearn, nltk, SwiftUI, NetworkX

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 a feature-rich 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, University of Texas - Arlington*   **April 2023**