Viraj Sabhaya

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EDUCATION

The University of Texas - Arlington   **Jan. 2020 – Current**
Bachelor of Science in Computer Science   *Arlington, Texas*

AWARDS

Nokia Outstanding Professional CS Student   **April 2023**
College of Engineering   *UT Arlington*

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, Lucidchart, SQL Server Mgmt. Studio, Jira, Firebase, HuggingFace
Technologies: Git, APIs, NumPy, Pandas, MatPlotlib, Scipy, Sklearn, nltk, NetworkX, SwiftUI, pyQT5

EXPERIENCE

Research Assistant   **October 2022 – Present**
IT Lab, UT Arlington   *Arlington, Texas*

- Developing Analysis module to perform analysis on Multi-Layer network data sets such as Airline, LinkedIn connections, IMDb, and Co-Actor networks to detect Communities and patterns

- Developed Visualization module to effectively visualize results of big data analysis and multi-layers generated from MLNs

Software Engineering Intern   **June 2022 – August 2022**
Securonix   *Dallas, Texas*

- Conducted automated tests using Cypress on the SNYPR Software, ensuring successful execution
- Contributed to the design, development, and maintenance of Securonix's NextGen SIEM 2.0 Technology, resolving real-time customer issues on Securonix cloud, and utilizing big data technologies such as Kafka, and Spark on the DataSource project

Research Assistant   **April 2022 – June 2022**
IT Lab, UT Arlington   *Arlington, Texas*

Student Lab Assistant   **Jan. 2021 – April 2022**
Office of Information Technology, UTA   *Arlington, Texas*

PROJECTS

FreshiGO | *Swift, SwiftUI, LLM, XCode, Firebase, UI/UX*   **On-going**
- Developing an iOS app with Swift, SwiftUI, Firebase and emphasizing UI/UX, database, testing deployment.

Pdf-GPT: Load and Ask | *Python, OpenAI, LLM, embeddings, FAISS*   **On-going**
- Created a Streamlit web app utilizing OpenAI's API to fetch answers from uploaded PDFs
- Implemented chunking and vector conversion to optimize data storage and reduce costs

Analysis & Visualization - MultiLayer Network | *Python, Plotly, NetworkX, Bokeh, Louvain*   **On-going**
- Analyzing data and detecting patterns and communities in multi-layer network datasets like Airlines, IMDb
- Developed algorithms to visualize and analyze layers of data using Python, Plotly, NetworkX, Bokeh, map Equation, Louvain; Enabling users to explore interactions, identify patterns and understand network community structures

ERS, BECHT Web-Dashboard | *C#, .NET Core, Entity Framework & MSSQL, Angular, Azure Cloud*   **On-going**
- Developing a Web application catered to organizations that own/operate process facilities in various industries, encompassing both traditional and renewable energy
- The primitive objective of this application is to mitigate risks minimizing health, safety, and environmental accidents by effectively identifying failure mechanisms through the implementation of Equipment Reliability Strategy (ERS)

Auto YouTube Transcript Analyzer – AutoYT_GPT | *Python, OpenAI, LLM*   **April 2023**
- Developed web app generating video transcripts and utilizing Open AI API for user Q&A

Routing Protocol Simulation | *Python, Routers*   **April 2023**

- Developed and Implemented a Distance-Vector algorithm simulation for optimizing communication routes between network routers/nodes

Arlington Sprouts Database Management | *MySQL, Python, Apache webserver, XAMPP*   **March 2023**

- Created a robust database for Arlington Sprouts Store, a premium sprouts seller, ensuring efficient data management
- Executed SQL queries to extract relevant information from the database, supporting data-driven decision making
- Developed an intuitive web interface enabling seamless interaction with the database for efficient operations

Data Source | *JS, python, cypress, Selenium at **SECURONIX***   **Aug. 2022**

- Conducted successful automation tests on Threat detection software (SNYPR).
- Created an automation tool to convert CSV to required JSON libraries

Operating System | *C/C++, gcc, parallelism, Arena-allocator, LinkedList, Shell, fat32,*   **Dec. 2022**

- Developed mshShell that can perform basic functionality of a bash Shell
- Fractal, computes and generates the image using Mandelbrot set via the help of threads to perform parallelism and makes the process faster
- Implemented a memory allocator that supports First Fit, Next_Fit, Worst_Fit and Best_Fit algorithms
- Developed a fileSystem where Users can create filesystem image, list, add, remove, and save the files

Web Poker | *Java, HTML, CSS, JavaScript*   **Feb. 2022 - May 2022**

- Developed a web application using Java with a focus on OOPs concepts, HTTP server, and WebSockets

Stock Management System | *Java, GUI, JavaFX, APIs*   **Nov.2021 - Dec. 2021**

- Developed a GUI application made using JavaFX and Alpha Vantage API for managing a stock portfolio

EXTRACURRICULAM

Engineering Student Council (ESC.UTA)   **Feb. 2022 - Aug. 2022**

Events and Marketing Officer   *UT Arlington*