

# Viraj Sabhaya

Arlington, TX, United States

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## EDUCATION

### The University of Texas - Arlington

Bachelor of Science in Computer Science

Jan. 2020 – Current

Arlington, Texas

## AWARDS

### Nokia Outstanding Professional CS Student

College of Engineering

April 2023

UT Arlington

## TECHNICAL SKILLS

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

**Developer Tools:** VS Code, XCode, Android Studio, Figma, Adobe XD, gcc/g++, GitHub, Raspberry Pi, Linux, AzureDevOps, Lucidchart, SQL Server Mgmt. Studio, Jira, Firebase, huggingFace

**Technologies:** Git, APIs, JavaFX, NumPy, Pandas, Matplotlib, Scipy, Sklearn, nltk, NetworkX, SwiftUI

## EXPERIENCE

### Student Research Assistant

IT Lab, UT Arlington

October 2022 – Present

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

Securonix

June 2022 – August 2022

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

### Student Research Assistant

IT Lab, UT Arlington

April 2022 – June 2022

Arlington, Texas

### Student Lab Assistant

Office of Information Technology, UTA

Jan. 2021 – April 2022

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 to minimize 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*