Aaryaa Moharir

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Education

University of Texas at Dallas, Richardson, TX August 2023 - May 2027
GPA: 4.0
Bachelor of Computer Science
Coursework: Computer Science 2, Database Systems, Adv. Algorithms, Data Structures and Algorithms

Lebanon Trail High School, Frisco, TX May 2023
Graduated in the top 5% of the graduating class.
Coursework: Pre-AP Computer Science, AP Computer Science (received credit for college-level Computer Science 1), Computer Science 3 (focused on data structures), Computer Science Principles, Cybersecurity, CCNA 1

Experience

University of Texas at Dallas, Richardson, TX August 2024 – Present
Undergraduate Researcher in Jee Lab

- Part of a lab that focuses on malicious activity detection by analyzing the files, Ip events, and processes started throughout a network and finding the attack pathway by using various strategies. Worked on 6 variations of a strategy that prioritized processes using C# and am currently working on establishing a database with event counts using MongoDB, SQL, and C#

Undergraduate Researcher February 2023 – Present

- Researched and implemented hallucination detection mechanisms in Large Language Models, including RunREF, RunCove, and Sac3, to evaluate performance and compare their effectiveness.

Cyber Security Research and Education Institute Intern June 2022 – August 2022

- Acquired knowledge in diverse access control systems, the impact of quant on cybersecurity, Big Data security, and Cloud-based security during an intensive learning experience guided by Dr. Thuraisingham.
- Collaborated with three peers to design and develop a Java program simulating a college applications process, incorporating a role-based access control system and GUI.

Projects

Coordination App for Wellness Center for Older Adults August 2024 - Present

- Developed a full-stack coordination application for a wellness center, designed to streamline service scheduling and communication for older adults.
- Built the frontend using React, Tailwind CSS, and JavaScript, enhancing user experience with an intuitive interface tailored for accessibility.
- Designed and implemented Docker containers to streamline deployment, ensuring consistency and scalability across development environments.

Detect and Defend December 2023 – May 2024

- Led and mentored a team of five in developing a Python-based machine learning model to attack Federated Learning systems by reconstructing original training datasets through gradient reversal.
- Utilized the LeNet-5 architecture and multiple datasets, including MNIST, to train and evaluate a General Regression Neural Network (GRNN) model.

Ransomware Attack Simulation August 2021- May 2022

Leveraged Metasploit, a widely used penetration testing tool, for generating a reverse shell to access the victim device on a virtual machine

- Built and deployed a Python-based keylogger that bypassed the Windows firewall, an HTML-created phishing website with source code emulation, and ransomware programmed using Java to effectively crash the victim's computer.

Arduino Controlled IoT System August 2022- May 2023

- Engineered an Arduino to remotely control LED lights, developed the user interface of an IoT app using Android Studio, and authored a concise paper exploring the history and applications of the Arduino.

Certificates & Accomplishments

Certificates

- Earned the "Java", "Cybersecurity", and "Network Security" IT Specialist certifications from Certiport.
- Earned the Google Cybersecurity Certificate and pursuing the Google UX Design Certificate.
- GIAC Foundational Cybersecurity Technologies (GFACT) Certified