Aaryaa Moharir

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Education

University of Texas at Dallas, Richardson, TX   August 2023 - May 2027
Bachelor of Computer Science
Coursework: Computer Science 2, Discrete Math 1 and 2, Physics 1 and 2, 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   June 2022 – August 2022
Cyber Security Research and Education Institute Intern
- 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.

International Socioeconomics Laboratory   June 2022 – August 2022
Research Assistant
- Collaborated with hospital administrators and doctors in Nepal to investigate strategies for reducing child mortality rates.
- Utilized R for sorting and analyzing diverse datasets containing information on survival rates, treatment methods, hospital locations, and related metrics.
- Presented a comprehensive paper outlining a potential solution to address the issue, emphasizing key areas for improvement.

Projects

Detect and Defend   March 2024
- Lead and mentored a team of 5 to build a Python based Machine Learning model that attempted to attack Federated Learning models by recreating the original dataset that they were trained on. Used the LeNet 5 architecture and multiple well known datasets include MNIST to train and test the GRNN model.

Conceal and Reveal   August 2023- December 2023
- Built a Python based Machine Learning model to predict whether an image had steganalysis within it with a team of 4 individuals. Used the architecture, ResNet 50, to create a binary classification model that had a 74% accuracy and created a SVM model to compare results.

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.

Simulated a Cyber-Attack using Metasploit   August 2021- May 2022
- Executed a simulated cyber-attack, educating the audience on preventive security measures. Leveraged Metasploit, a widely used penetration testing tool, for key components, including a Python-based keylogger, an HTML-created phishing website with source code emulation, a Metasploit-built reverse shell, and Java-coded ransomware. The culmination of this project underscored the ease of gathering user credentials through a phishing attack, granting unauthorized access to the victim's system, and enabling remote deployment of ransomware if proper security precautions are not taken.

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.
- Earned the SANS SEC275: Foundations: Computers, Technology, and Security Certificate.

Accomplishments
- Received 1st place at a beginner-friendly AI themed hackathon called AIFAHacks.