Karim Kabbara

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EDUCATION & CERTIFICATIONS

University of Colorado Denver — **GPA: 3.56/4.00**
Bachelor of Science in Computer Science with a Certification in Cybersecurity and Secure Computing. — *May 2023*
CompTIA Security+ (SYO-601) — *June 2023*
NVIDIA DLI Certification: Building Intelligent Recommender Systems. — *November 2022*

PROJECTS

Brady Public Humanities Archive (Visit: bradyhumanities.org/)
- Our senior design team created a website that functions as an archive for world-wide humanities projects. Our client, a Spanish humanities professor at The University of Minnesota, requested a way for professors and users to submit humanities projects to a digital archive and view other projects on an interactive map.
- Technologies used include AWS LightSail to provide a VPS, Nginx paired with Gunicorn to run the web server, and Django for the web development framework. Amazon's RDS is used to host the MySQL database.
- Functionality included account creation, submitting projects, verification process, and interaction with the MapBox API to place project pins on a map.

Directory Manager
- Created a directory management system that allows a company to separate employee access to information. Employees may be assigned to a directory and cannot access different directories' information. The application runs using a local multi-threaded server that allows clients within the same network to remotely connect to it.
- The server application allows administrators to start/stop the server, create new directories, and add/remove users from directories with. Added users have permissions for each directory. The client application allows users to sign in and select a directory that they have been added to. Depending on permissions, users can create, modify, and delete folders & files.
- This application was written in C++ using the Qt framework to handle the Server & Client GUIs. User and directory information is stored in PostgreSQL database.

Tournament Management System
- Created a management system that allows for the management of a soccer tournament. This system can be used to track the progress of the FIFA World Cup 2022 or any future tournaments. This system was created using Java and JavaFX.
- Administrators can add countries, teams, and players, and create matches and their lineups. Users can view all the lineups, matches, and teams in the tournament in a separate JavaFX application.
- The tournament system is hosted on a multi-threaded server that allows administrator applications or general user applications to connect to it. The application identifies itself to the server so that the server controls access to functions.

Port Scanner Detector
- Wrote a python script that can be used to detect port scanners to prevent malicious machines from scanning a network.
- The script analyzes network traffic and detects any port scanners. A listening socket was used to capture packets traveling through the network. Packet headers were dissected to extract source & destination mac addresses and IP addresses.
- Unique source and destination IPs, and ports were stored in a first contact table. The first contact table is analyzed to calculate fanout rates. Source ports that exceeded a threshold over a time interval were flagged as port scanners.

PROFESSIONAL EXPERIENCE

University of Colorado Denver — *Denver, CO*
Teacher Assistant (Temporary Position) — *January 2023 – May 2023*
- Worked closely with a professor to design and develop two classes for the new Cybersecurity major offered at CU Denver. The classes developed were Computer Security, and Secure Networking and Programming.
- Development included researching and gathering textbooks that align with the topics of each class, creating labs that challenged students to think outside the box, and homework assignments that introduced the fundamentals of each topic.
- Topics included introduction to penetration testing, SQL injections, cloud VM setup (GCP), packet capture and analysis, hashing and cryptography, as well as input validation.

Target — *Parker, CO*
Fulfillment Expert — *October 2020 – Present*
- Responsible for picking products around the store in a timely fashion. Products are bagged and stored efficiently to allow other team members to quickly deliver the products to the guest or packaged to be shipped to customer homes.

Best Buy — *Parker, CO*
Sales Expert — *February 2019 – August 2020*
- Provided in-depth solutions and recommendations by asking clients open-ended questions to understand their needs. Solutions mainly involved computers, tablets, home theater setups, and associated peripherals. (Soundbars, printers, etc.)
- Assisted clients with products they already own by troubleshooting the cause of the problem and finding a solution.

SKILLS & LANGUAGES

Skills: Python, C++, Qt Framework, Java, JavaFX, Bash, MySQL, Kali Linux & Ubuntu, Wireshark, Git, Object-Oriented Programming, Multi-Threaded Socket Programming, AWS, Django, HTML, CSS, JavaScript, Embedded Systems (Arduino).
Languages: English (Fluent), Arabic (Native), French (Beginner).