

Karim Kabbara

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EDUCATION & CERTIFICATIONS

University of Colorado Denver. GPA: 3.54/4.00

Denver, CO

Bachelor of Science in Computer Science with a Certification in Cybersecurity and Secure Computing.

In Progress: May 2023

NVIDIA DLI Certification: Building Intelligent Recommender Systems.

November 2022

PROJECTS

Port Scanner Detector

July 2022

- 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.

Tournament Management System

October 2022

- 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.
- To prevent race conditions, concurrency is taken into consideration in this system by synchronizing all data modification.

Brady Public Humanities Archive (WIP, Visit: bradyhumanities.org/)

November 2022

- Our senior design team created a website that functions as an archive for Spanish 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.
- Users can create accounts and submit projects to the archive. These projects are placed on a map as markers. When hovered, the markers show relations to other projects by category. When clicked, the markers lead to a page containing details about the project. Users may also use the search bar to find projects by keywords.

Directory Manager

January 2023

- 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. When added to a directory, users are given certain permissions for that directory. Administrators can also view system details such as all users, active users, and directory details.
- The client application allows users to sign in and select a directory to work on. The user can only see the directories 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.

PROFESSIONAL EXPERIENCE

University of Colorado Denver

Denver, CO

Teacher Assistant

February 2023 – Present

- Working closely with a professor to design and develop two classes for the new Cybersecurity major offered at CU Denver.
- The classes being developed are Computer Security, and Secure Networking and Programming.
- Development includes researching and gathering textbooks that align with the topics of each class, lab, and homework assignments, as well as creating exams for each course.

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).