

Karim Kabbara

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Parker, Colorado • (720) 440-0122

EDUCATION & CERTIFICATIONS

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

University of Colorado Denver

Cisco IT Essentials [\[PDF\]](#)

CompTIA Security+ (SY0-601) [\[PDF\]](#)

Cisco CCNA (200-301)

May 2023

GPA: 3.56/4.00

June 2017

June 2023

Estimated: September 2023

SKILLS & LANGUAGES

Skills: Python, Bash scripting, C++ (Qt Framework), Java, JavaFX, MySQL, Linux (Kali & Ubuntu), Wireshark, Git, Object-Oriented Programming, Multi-Threaded Socket Programming, AWS, Google Cloud Platform, Django, HTML, CSS, JavaScript, Embedded Systems (Arduino).

Languages: English (Fluent), Arabic (Native), French (Beginner).

PROJECTS

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

- Collaborated with a team of 3 to create a website that functions as an archive for worldwide humanities projects for a client, a Spanish humanities professor at The University of Minnesota.
- Technologies used include AWS LightSail to provide a VPS, Nginx paired with Unicorn to run the web server, Django for the web development framework, and Amazon's RDS 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.

Crossfire Cyber Attack Simulation

- Wrote a script to simulate legitimate users, compromised bot machines, decoy servers, routers, and a target web server.
- Analyzed the network topology to identify the links that user packets travel on to flood these links to deny users access to the webserver.
- Achieved a DDoS by directing bots to send many packets to decoy servers that were placed along the same path that the users needed to reach the target web server.
- Calculated the right amount of traffic for each bot to send so that only the target links (links with the highest user traffic) were flooded and not any intermediary links.

Port Scanner Detector

- Wrote a Python script that can be used to detect port scanners to prevent malicious machines from scanning a network.
- Analyzes network traffic and detects port scanners by using a listening socket to capture packets traveling through the network.
- Dissected packet headers to extract source & destination MAC addresses and IP addresses.
- Used unique source/destination IPs and ports, stored in a first contact table, to calculate fanout rates to detect source ports that exceeded a threshold of scans over a time interval.

Network Monitor

- Wrote a bash script that simplifies network & security management by scanning for live machines and logging open ports.
- Scan types include one IP, a range of IPs, or the entire subnet.
- Analyzed scan results to determine if a host is up or down by using 'Grep' to find indicators for hosts that are down.
- Ran Nmap scans on live hosts to retrieve all their open ports and store the results in a log file.

PROFESSIONAL EXPERIENCE

University of Colorado Denver

Cybersecurity Course Developer (Temporary Position)

Denver, CO

January 2023 – May 2023

- Worked closely with a professor from the Computer Science department 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 an introduction to penetration testing, SQL injections, cloud VM setup using Google Cloud Platform, packet capture and analysis, hashing and cryptography, as well as input validation.

Target

Fulfillment Expert

Parker, CO

October 2020 – May 2023

- 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

Sales Expert

Parker, CO

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.