

# Karim Kabbara

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## EDUCATION

### University of Colorado Denver

Denver, CO

Bachelor of Science in Computer Science, Certification in Cybersecurity and Secure Computing. GPA: 3.52/4.00 May 2023

- Relevant Coursework: Object Oriented Programming, Principles of Programming Languages, Operating Systems Concepts, Machine Learning, Software Engineering, Database Systems Concepts, Data Structures, Computer Architecture, Assembly Language (MASM), Intro to Networking, Computer Security, Cyber/Infrastructure Defense, Cyber Security Principles, Algorithms, Parallel and Distributed Computing, Advanced Programming with Java, and Python.

## PROJECTS

### Port Scanner Detector

Summer 2022

- Wrote a python script that 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 and destination mac addresses, source, and destination Ips, and protocol used.
- Unique source and destination IPs, and ports were stored in a first contact table. Entries older than 5 minutes are automatically removed. The first contact table is analyzed to calculate fanout rates. Source ports that exceeded a threshold of over a time interval were flagged as port scanners.

### Crossfire Attack

December 2021

- Wrote TCL code to simulate legitimate users, compromised machines (BOTS), decoy servers, routers, and a target webserver. The goal of this attack is to identify the links that user packets travel on and to flood these links to deny the users access to the webserver.
- To achieve a denial of service, BOTS were directed to send many packets to decoy servers. These decoy servers were along the same path that the users needed to reach the target webserver. Degradation ratio is a percentage of the total number of dropped user packets over a time interval. To achieve the highest degradation ratio possible, each bot needed to send a specific amount of traffic so that the intermediary links were not flooded.
- The code was written so that each link can handle 950Kb of data. The intermediary links could not exceed that amount. However, when the packets aggregated on the target links, the amount of data passing through had to exceed 950Kb to cause the link to flood.

### Network Monitor

December 2021

- Wrote a bash script that scans for live machines on a network and retrieves all their open ports. The script allows the scanning of one IP, a range of IPs, or the entire subnet.
- For a given IP scan, the result is grepped for keywords that indicate that the host is down. If the host is up, NMAP is executed to scan and retrieve all open ports.
- Detected machines are logged in a report file along with any open ports.

## PROFESSIONAL EXPERIENCE

### Target

Parker, CO

#### Fulfillment Expert

October 2020 – Present

- Responsible for finding and picking products around the store in a timely fashion. Products are bagged and stored in an efficient manner to allow other team members to quickly deliver the products to the guest.
- Packaged merchandise and worked with UPS and FedEx to ensure products were safely shipped out and delivered on time.
- Assisted other teams in the store by stocking products and by helping guests around the store.

### Best Buy

Parker, CO

#### Sales Expert

February 2019 – August 2020

- Provided in-depth solutions and recommendations by asking the client open ended questions to understand their needs. Solutions mainly involved computers, tablets, and home theater setups. Associated peripherals such as additional monitors, printers, soundbars, TV mounts were included in each solution.
- Sold appliances including refrigerators, ovens, washers, and dryers.
- Maintained a clean and inviting sales floor by engaging in routine cleaning processes and by stocking product biweekly.

### Walmart

Parker, CO

#### Electronics Associate

August 2017 – January 2019

- Responsible for stocking product on the salesfloor to maintain a high standard of presentation and maintained a clean salesfloor by performing cleaning routines.
- Assisted customers by answering questions and providing recommendations for products. Rang up customers for high value products.
- Ensured that returned products were legitimate by checking serial numbers and other product information.

## SKILLS & INTERESTS

**Technical:** Python (Pandas, NumPy), C++, Java, Bash, SQL(MySQL), Kali Linux, Nmap, Metasploit, Wireshark, Nessus, GitHub, Object-Oriented Programming,

**Languages:** English (Fluent), Arabic (Fluent), French (Beginner)

**Interests:** Piano, Bodybuilding, Snowboarding, Classical Music