# MUHAMMAD RAFAY KHAN

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### **EDUCATION**

University of Maryland Expected May 2022

Bachelor of Science in Computer Science with a minor in Business Analytics

### PROFESSIONAL EXPERIENCE AND PUBLICATIONS

#### **Ironnet Cyber Security**

Frederick, MD

GPA: 3.66

Detection & Analyzation Intern Summer 2019

- Used a Django framework to set up an authentication client for a project and survey which will collect information from workers to facilitate their job.
- Set up a bash script aid in searching through databases for DNS servers and their associated ASN numbers.
- Used Python and Amazon S3 to create an updater for an Amazon file which updated constantly with new IP addresses associated with specific services and outputted the difference between the updated file and the most recent file. The program also recorded every copy of the file and kept a pointer file to the latest one.

Commputercations Frederick, MD

Intern

July 2017 – July 2018

- Analyzed and corrected problems with customers computers and communicated with customers to swiftly resolve problems so they could use their computers again.
- Assessed problems in hardware and technology that was dropped off. Would open, analyze, and assess the parts and motherboard to figure out the part which needed to be replaced.
- Went to the customers worksite, and helped resolve issues quickly and professionally, as well as set up computers and workstations for the company for new employees to use.
- Helped to set up the server room, wire the cables around the office, and set up ethernet cables for computers.

# **ACADEMIC EXPERIENCE**

Algorithms, College Park

Spring 2020

- Studied and understood the complexities of several algorithms and able to create an optimize a given algorithm
- Developed a thorough understanding of data structures, sorting algorithms, and searching algorithms, and able to implement and use the best choice for a specified algorithm
- Learned several mathematical techniques to optimize and analyze the runtime complexity of an algorithm

### Organization of Programming Languages, College Park

Spring 2020

- Studied several programming languages, from their syntax to when to implement them
- Developed an understanding of dynamic, scripting, functional, and memory safe systems programming
- Grasped concepts such as software security, parsing, finite automata, and higher order programming

# **PROJECTS**

#### Linux Subsystem, C

- Programed a linux filesystem in C using different types of data structures and pointers.
- The filesystem had tools such as rm touch mkdir rm -rf and the root directory and change directory (cd)

# Parser and Interpreter, OCaml

- Takes in a few key words and then processes the text input by tokenizing, parsing, and then evaluating the output and returning it to the user
- If the input is not correct, prompts the user to input again and returns the error

#### **ACTIVITIES**

# Food Recovery Network, Volunteer

August 2018 - Present

- Organized recovery and packaging of surplus food from University of Maryland dining halls.
- Helped donate and distribute food to needy individuals in the DC area.

### Pakistani Student Association, Fundraising Chair and Board Member

May 2019 - May 2020

- Planned and organized biweekly general board meetings that embrace Pakistani culture.
- Organized and executed fundraisers, raised \$1000+ of funds, planned an event that accommodates 300+ people.

## SKILLS/AWARDS

Skills: JAVA, HTML, CSS, Python, C, Ruby, RUST, Microsoft Word, Microsoft Excel, Public Speaking, Photoshop Academic Honors: Achieved Dean's List Fall 2018, Dean's List Fall 2019, Dean's List Spring 2020 Organizations: Kappa Theta Pi – Professional Technology Fraternity, University Honors Program, Robert H Smith School