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 GPA: 3.66

PROFESSIONAL EXPERIENCE AND PUBLICATIONS

Ironnet Cyber Security Frederick, MD
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

Object Oriented Programming II – fundamental data structures, *College Park* Spring 2019

- Coded programs in Java utilizing various data structures, sorting methods, and optimizing algorithms
- Interpreted data structures (trees, graphs, linked lists, 2d arrays), class hierarchy, and other object-oriented principles including inheritance, recursion, and multithreading.

PROJECTS

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

Analysis of Video Game Popularity, *Python*

- Found data on Kaggle, imported the csv file into python and cleaned the data – turned into a Pandas dataframe
- Used exploratory data analysis and matplotlib to plot and identify trends in the dataset, discussing popularity in terms of Global Sales of the game
- Used sci-kit learn to create a machine learning prediction model to estimate a video games popularity based off of attributes, then rated the accuracy of the created model.

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