Letter of Motivation for Summer@BGU

Solving real-world problems that have value to the world has always been one of my ardency. I am writing to apply to the summer program at Ben Gurion University for Data Mining and Business Intelligence for Cyber Security. During the extracurricular activities with my colleagues, they addressed this exciting summer program. I am very excited about the prospect of learning Data Mining and Cybersecurity from this prestigious university.

I am in my third year of bachelor's in Computer Science and Engineering. I was always intrigued by solving new puzzles, but when I got introduced to computer science I was very excited about the different possibilities of discovering and solving problems and never looked back. I decided to get enrolled at Amrita Vishwa Vidyapeetham to satiate my desire for knowledge of new technology and broaden my horizon. I joined amFOSS which is a student-driven club of our college which focuses on open source contributions. I want to improve society's perspective towards environmental sustainability. So I worked with my clubmates to build an app which transforms the process of planting trees as a quest and uses social media to show their progress and motivate others to do the same to decrease carbon footprint.

Moving on, As I broaden my options to devote to, I chose Computer Network and Security as my primary field of interests. In this digital age, the threat to privacy has been alarmingly serious and to work on a project which could inhibit and safeguard people’s digital footprint.

I am currently working on a research project with a professor in the field of Access Control for handling incomplete information in policy. And also worked on a research project where we explored how a video platform like Youtube serves videos to a large user population and operates ABR with different transport options. From the data we have analysed so far I could understand how the dash-manifest, which consists of the information regarding the videos, helps trigger what optimal action of audio/video to fetch from which server with other parameters. In terms of performance, QUIC protocol is better than other protocols.

I am also interested in research on works that demonstrate the potential of applying ML to enhance congestion control in different networks ensuring better network stability and packet loss ratio. I have helped Amrita Hospital to build a comprehensive network monitoring tool which helped them to input their custom parameters for specific checks using the existing tools such as ICINDA, Observium.

I built a project in a team of three called NaWaB which is a content curator for the topics related to the networks. It is one of the best solutions to be updated in the latest technologies, developments, and discussions of networks on Twitter. When the script is running all the tweets related to networks are scraped and the tweet id with timestamps are stored in a .csv file. I then analysed the data to segregate what new trending topics are. From this study, what I understood is that it’s not just about collecting data that matters, but it’s about collecting data which is relevant to the study that matters.

After my bachelor’s, I plan to do my masters in Computer Network and Security and I would like to build a network system using machine learning that could detect malicious attacks such as DDoS, without any damages done to the resources as this is a high priority problem which we still face today. Getting a chance to be a part of this summer program would be a wonderful opportunity for

me and it would help me achieve my goal of being trained under talented professors in a culture-filled environment.