INTERNSHIP REPORT ON COMPUTER FUNDAMENTALS AND COMPUTER NETWORKS

BY

HASAN IMAM NAHID

ID: 143-15-4400

This report presents partial fulfillment of the degree requirements for the Bachelor of Science in Computer Science and Engineering.

Supervised By

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DAFFODIL INTERNATIONAL UNIVERSITY

DHAKA, BANGLADESH

SEPTEMBER 2021

APPROVAL

The Internship titled **"INTERNSHIP ON COMPUTER NETWORK AND COMPUTER FUNDAMENTALS"**, submitted by **Hasan Imam Nahid, ID No: 143-15-4400** to the Department of Computer Science and Engineering, It was determined that Daffodil International University had partially satisfied the requirements for the B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation was held on 11th September 2021,

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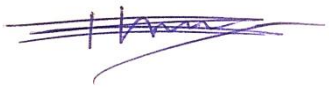

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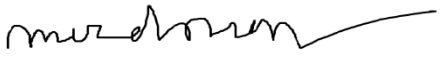

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DECLARETION

This project has been completed by me under the supervision of **Mr. Saiful Islam Lecturer, Department of CSE** Daffodil International University. We declare that neither this intern nor any part of this intern has been submitted to any university for awarding a degree or diploma.

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Daffodil International University

Submitted by:

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Firstly, i wish to thank Allah for making our final year internship possible. **Mr. Saiful Islam**, a Lecturer in the Department of Computer Science at Daffodil International University, Dhaka, has been a great help to me. I am profoundly grateful to him for his support. To carry out our internship, our supervisor is well versed in "**COMPUTER FUNDAMENTALS AND COMPUTER NETWORK**", and shows a keen interest in this area. I am indebted to his kindness, close guidance, and supportive encouragement, constant and enthusiastic supervision, constructive criticism, insightful advice, reading and correcting many drafts at all stages that were inferior and prevented this project from failing.

In addition to Professor **Dr. Touhid Bhuiyan**, the head of the Department of CSE of Daffodil International University, we would like to express our sincere gratitude to the other faculty members and the staff of the CSE department.

Still, I wish to thank my colleagues from Triangle System Ltd, who gave me personal assistance and helped me to complete my internship (computer fundamentals, networks, etc.) during my coursework.

The last thing I need to mention is the support and patience I have received from my parents, without them none of my work would be possible.

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ABSTRACT

The purpose of this report is to document the successful completion of my internship under the supervision of **Mr. Saiful Islam**. I completed an internship at Triangle Service Limited, a software company that teaches **Computer Fundamentals and Computer Networks**. While interning in a software firm, I had various responsibilities and tasks to complete. In addition to finding out why the computer wasn't working, I did a lot of work. Computer's hardware and operating systems proper use, BIOS updates, computer networking, and so on. In this internship report, I simply showed how I managed a variety of tasks, worked hard during the internship, and showed my skills. As I mentioned before, I have tried to present myself, my work, and the level of success I experienced during my internship.

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Chapter 1

INTRODUCTION

Introduction

In order to provide a high level of customer service, **Triangle** operator relies on world-class Metro Ethernet technology and nonparallel infrastructure. We ensure the high uptime and network availability of our customers through a fully redundant, carrier-agnostic backbone architecture. We provide all the latest protocols for WAN access at all of our POP.

Background

Triangle Services Ltd founded in 1997, has garnered recognition as a leading ISP (internet service provider) in Bangladesh. Keeping up with demand is a key objective of the Company, as both residential and corporate customers appreciate our high-quality Internet solutions consistently fast, stable, and innovative.

Motivation

In the first place, I was exceptionally restless with regards to beginning my brief occupation at Triangle Organization Restricted. My interest for learning new things was steady, be that as it may. Noticing and keeping up with a lot of information has ended up being hard for me as a rookie. All things considered, I felt certain and changed bit by bit. As an outcome, my variation to this everyday plan was troublesome and testing. Despite the fact that learning new things was really difficult for me, I trust I had the option to adjust to it. Security rehearses should be perceived by the organization manager. Moreover, I figured out how to work with specialists from different fields of computer engineering.

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Objectives

In this study, we are attempting to comprehend the operational structure and activities of NOC through realistic and practical examples. This study has the following general aims and specific aims:

Broad objective:

Study objectives include familiarizing yourself with the current working environment, understanding organizational culture in the corporate world, as well as fulfilling the theoretical requirements of the computer science curriculum in a specific field.

Specific objectives:

Triangle Services Ltd. is tasked with understanding and analyzing its overall activities. The purpose of this analysis is to determine how Triangle Services Ltd's operations are performed.Suggestions on how to improve techniques and policy.The theoretical knowledge is related to real-life scenarios.Gaining an understanding of what Core Network's role is.

Introduction to the Company

Triangle Services Ltd has deployed a high-quality Network infrastructure backbone that consists of 3000+km wide optical fiber and Metropolitan Area Network (MAN) around the capital city (Dhaka) and all divisions (Chittagong, Sylhet, Khulna, Barishal, Rajshahi, Rangpur, Maymanshing) in the country. That can support a wide range of convergent services like fast broadband access, voice, data, triple play, and various connectivity solutions such as Virtual Private Networks (VPN). Triangle Services has also evolved into full-range web-based software development and website designing, Web hosting, Email marketing, professional IT training, and IT consultancy. Triangle is always ready to give you genuine facilities and the best value privileges.

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Figure 1. 1: COMPANY LOGO

Table 1. 1: Organization Info

Name	Triangle Service Ltd.
Address	Wakil Tower,Ta-131, Gulshan Badda Link Rd, Dhaka 1212
Phone	+88-09666-770444
Email	info@triangle.com.bd
Website	http://www.triangle.com.bd/
Type of organization	ISP
Employees	35

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Report Layout

Table 1.2: Report Layout.

Chapter No	Description
Chapter 1	My objective for this internship and my motivation for it are outlined in this chapter. I have also described which company I have done my internship with and what they do and a short brief about my internship.
Chapter 2	As I described my internship company in this chapter, and described their products and services, when we will implement our service, and some details about it, I also tried to implement one of their products company structure.
Chapter 3	My daily tasks and activities are described here, along with the events I attended. Something about my project activities and I showed some of my real-life projects.
Chapter 4	In this particular chapter basically, I describe how was my Internship, the pros and cons, and what was the upside and down and I told about my future carrier as a cse engineer.

CHAPTER-2

ORGANIZATION

Introduction

Bangladesh's best internet service provider offers cost-effective, high-speed, full-dedicated, and secure internet access. Your needs are important to us, and we are dedicated to providing world-class customer service.

Product and Market Situation

Triangle Services Ltd is an Internet service provider (ISP) in Bangladesh with a great reputation for service and providing reliable internet access to homes and businesses. We provide our valued customers with the fastest and most reliable internet access available in Bangladesh.

- Leased Internet- we offer highly secured fiber and wireless Internet that is completely dedicated.
- Day basis Internet- with this system, we can supply a large amount of bandwidth within a short time frame for events, business meetings, tele-broadcasts, etc. with complete protection by fiber within the country.
- Wi-Fi Hotspots– we offer wireless networks with a high level of bandwidth for schools/colleges and international fairs.

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Fig 2.1 Global Capacity Ratio

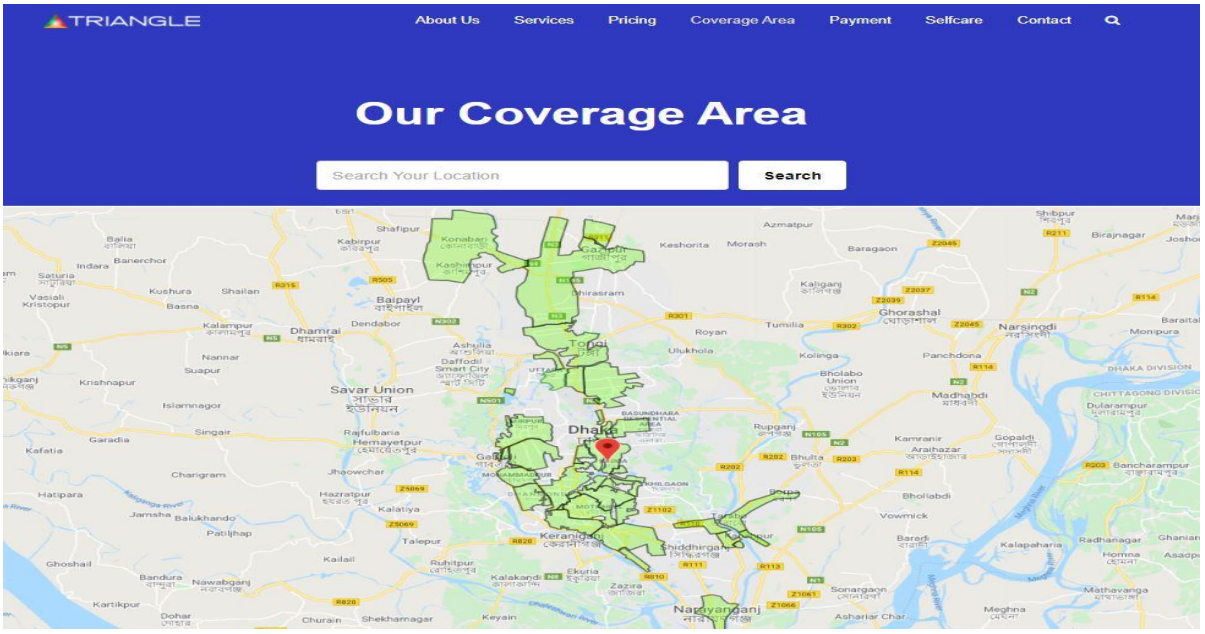

Figure 2. 2: Coverage Area of Triangle Service Ltd

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Target Group

TSL works with the various companies given below

- M/S Ideal Clipping
- Jhill Trade International
- Power tex Fashions
- Development Design and management
- Gazipur Metropolitan SP
- Buydevs
- Infinity Outfit LTD-1
- Techno metrics Ltd.
- Md.Shakhawat Hossain(IT manager of UTAH Group)

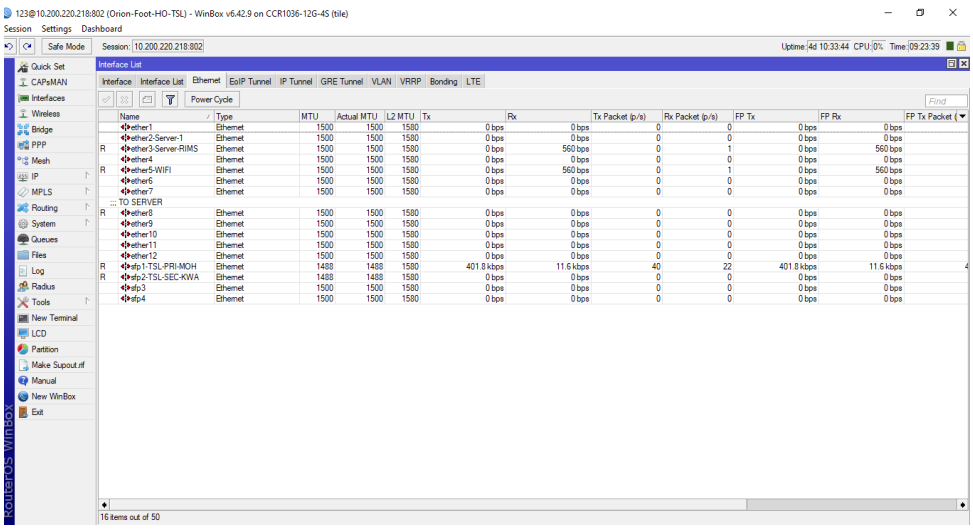

Figure 2. 3: Clients Router

I have also worked on this Win box router to manage their network.

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SWOT Analysis

The security system of a company's computer network is of extreme importance to the growth and well-being of the business owner, as well as the managerial staff. In network security, disasters caused by nature and human behavior are protected. In order to protect the company against disasters, the security designer must investigate the vulnerability of the network system. Additionally, switch ports serve as access points to a network. Therefore, keeping them secure is vital. It is necessary to monitor unused ports regularly and close them if required. We shut down the unused ports for this network. For example, MAC address flooding and spoofing cannot be tolerated on open ports.

Technical Strengths

- ✓ Internet backup through multiple IIGs, ITC.
- ✓ Multiple NOCs with redundant backbones.
- ✓ Protected PoP connectivity through ring network.
- ✓ Multipath intercity connectivity through different Telco/NTTN operators.
- ✓ High-end core networking devices like Juniper And Microtik router.
- ✓ Industrial grade bandwidth management and DPI solutions
- ✓ Strong power backups with long backup online UPS and generators
- ✓ Device/equipment level redundancy at all PoPs.
- ✓ Traffic optimization based on data priority for optimum performance

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Organizational Structure

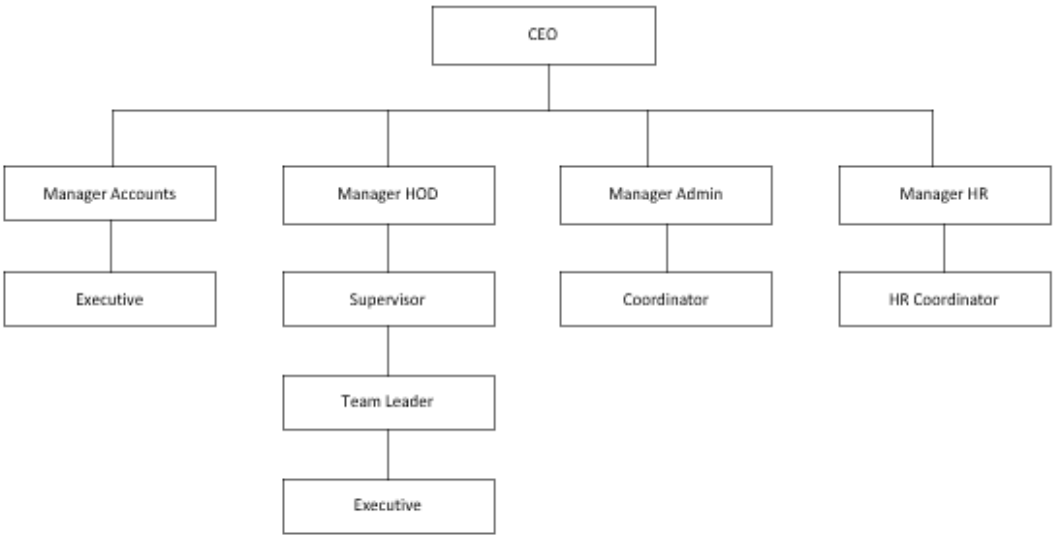

Figure 2. 4: Structure of Organization

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CHAPTER 3

TASKS, PROJECTS, AND ACTIVITIES

Daily Task and Activities

The hours I spent at my workplace Triangle Services Limited was long and I was required to be there Monday through Friday. In this role, I was responsible for discovering the corporate network structure, monitoring the client router, finding out the problems associated with the computer hardware, and correcting any operating system issues. I have updated BIOS on many computers in the organization. I have installed software for clients like anti-virus, Microsoft Office, Team Viewer, and many other utility applications. I fix hardware issues such as bad keyboard replacement, broken screen replacement, damaged hard drive replacement, random access memory (RAM) replacement, and numerous other hardware issues. I have also been involved in minor internet issues such as re-crime of damaged cable terminator (RJ-45), replacement of internet card in the client system, replacement of damaged switch.

Events and Activities

Training programs were required during my internship. In the beginning, they were related to CCNA, network security, and cyber security. I attended that seminar to learn how to run a network system with a company's server. To help me understand all the terms and conditions of the system, a necessary document was provided and group discussions were arranged. The remote working system of the company allowed me to solve various problems. My official training and instructions explained how to use a DHCP server.

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Project Task and Activities

For a better understanding of the IT department, I was assigned to the computer problem-solving team and to the networking team for a week-long rotation. I had the opportunity to sit with every team during this rotation. The experience has enabled me to gain knowledge about how each IT department and computer supports the fundamentals team. In addition, I learned more about the work methods and systems used by this team. My favorite part of the trip was learning what each team did. I was impressed at how important each team's operation was.

Challenge

The internship presented a challenge to me. In addition to being an intern, I have several projects to complete. It was the best internship I've ever had. As a result of my work at Triangle Services Ltd, I learned about real-life job situations and how multinationals operate. My life has never had an experience as interesting or worthwhile as this. Yet, while I was completing my internship program, there were some issues and problems I encountered. Despite my best efforts, sometimes I wasn't appreciated for my contributions. The results were somewhat depressing. As a result, it is not acceptable in a professional environment, and managing time was also problematic due to quizzes and other university assignments. The challenge of balancing work, school, and personal life was also present. It was a pleasure working with my co-interns. I also faced the challenge of doing a better performance than them. Sample images of some of my work during the internship.

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CHAPTER 4

COMPETENCES AND SMART PLAN

Competencies Earned

I gained some advanced knowledge in computer basics and security-related topics through the internship program. My familiarity with routers, switches, hubs, etc. was very limited, so using devices in the organization and gaining firsthand experience would be the best way to learn how to do the job at the corporate level. Which I achieve in **Triangle services limited**. That's what the organization gave me. As a participant in the internship program at Triangle Services Limited, I was able to improve my technical abilities through the application of software and the updating of hardware, including CPU, RAM, motherboards, drives, power supplies, and BIOS systems. My real-life did not allow me to experience all of this. I didn't get a chance to know all this in real life. So this internship has helped me to be open to real life use at the corporate level. Now I know how to update the computer's BIOS, how to fix software problems in Windows or Linux. How to use storage properly. How to install programs in hardware periodically. There are many things that can be supported in corporate offices using remote PCs. How to use storage properly. How to install programs on hardware periodically. I have learned how to solve remote computer problems with a remote PC.

Smart Plan

My temporary position at **Triangle Services Ltd** has given me a chance to advance my logical abilities. Scientific abilities incorporate both the capacity to utilize great thinking in investigating a circumstance and furthermore the capacity to take care of issues. I accept my insightful abilities have likewise been improved by dealing with various systems administration and PC major questions and checking functional execution. My relational abilities were outfitted as I found the opportunity to work in a proper setting with individuals of various foundations. Through my communications with my manager and other senior workers, my relational abilities were upgraded. I figured out how to speak with bosses and seniors chiefs

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Reflections

An internship gave me my first taste of professional life, and most importantly it strengthened my skills. My positive attitude, a strong sense of responsibility, inventiveness, resourcefulness, and open-mindedness has enabled me to adapt to changing circumstances. It has inspired me to continue learning throughout my life. My team members deserve special thanks for all they do for me. I am so impressed with the cooperation and helpfulness of all of them. In order to make me understand how IT systems work, they spent a lot of time with me. I was always able to get help from them regarding any work issues I had. The work environment was very new to me, and through my coworkers, I have gained a better understanding of professionalism. Among them are punctuality, a courteous greeting of seniors, smiles, and staying calm even when I am upset or annoyed.

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CHAPTER 5

CONCLUSION AND FUTURE CAREER

Discussion and Conclusion

Among the pioneers in the internet services and structures consolidation business, Triangle Administrations Ltd gives internet services and web advancement administrations. To guarantee that our customers are compelling, they grasp and are receptive to their requirements, just as work together with them to furnish them with one-stop fast, financially savvy, and adaptable electronic correspondence organizations. During my time at Triangle Services Ltd., I worked with the NOC group. Here there have as of now been various revelations and examinations made where the association gets an opportunity to change all alone. By stepping through this exam, I have assembled fundamental data regarding how to change, switch are dealt with, how the association structure works, and have been shown the meaning of IT organization in Triangle administrations Ltd associations. Having perused this report, I have had the option to acquire a broad comprehension of corporate culture to assist with my future undertakings. Finally, I would say that the enrollment communication of Triangle Administrations Ltd is furthermore contemporary and cordial when contrasted with various relationships inside this business.

Scope for Further Career

A section-level position offers understudies a chance to acquire valuable work insight into the field they are contemplating. As an understudy, this experience is amazingly important for working with their comprehension of how their examinations are really applied in reality.

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Organization

Previously, I wasn't sure what being lucky implied before I went to Triangle Administrations Ltd. In any case, I presently know about it. The help I got at Triangle administrations Ltd will live with me for eternity. I'm lucky, yet only one out of every odd individual is. Consequently, I firmly recommend that you are the ones who are liable for adapting to the workplace culture and climate. I'm lucky, however few out of every odd individual is. Hence, I accept that it should be done straight away.

University

I didn't understand what fortunate means until I joined Triangle administrations Ltd. I'm presently mindful of it, however. Along these lines, I was lucky to get the exceptional help of my partners at Triangle administrations Ltd. The facts really confirm that not every person could be so particularly lucky as Maine. As such, I even suggest you do your part in managing the way of life and climate at the work environment. Maine isn't the one in particular who is lucky. My solid suggestion to them is for them to address the workplace and the way of life of the work environment themselves. A working environment diversion program should exist. In my diversion movement, I in every case twofold outfitted Maine to address grave by partaking in Ping-Pong as the area. A repetitive and unpleasant life would result in any case. Every individual ought to, in this way, guarantee that they figure out how to stop out of their timetables to refuel.

Professional

In addition, internships provide interns with the opportunity to find out what works for a specific company, or within a specific trade, is like. Typical internship problems include time management challenges. Regardless of the problem, the berth must be given the simplest information possible. Nowadays, the internet has become a vital part of our lives, and the association with the web has become a bit like pebbles in a sea of knowledge. Users of the web are the majority who don't realize how the web works or do not care because most do not perceive the mechanics, while those who do understand the mechanics either exploit the vulnerability of other users or help to safeguard them or simply do not care about them.

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APPENDIX

APPENDIX A: Internship Reflection

Entry-level positions are exceptionally helpful to understudies themselves as they offer the opportunity to discover what works for a specific organization, or inside a specific industry, resemble. There are some ordinary difficulties that assistants for the most part face, for example, - using time effectively is a test. Whatever the issue, take the best information from the temporary job. A temporary job gives an extraordinary chance to planned workers to acquire insight in a specific field or industry. Contribution in these ventures additionally showed me how to deal with and adapt up to large activities, how to oversee everything effectively, how to keep up with project courses of events and timetables. The temporary job made me acquainted with a few new apparatuses and advancements to work in a group climate, an exceptionally effective way for a fast-knowing organization. Toward the finish of my temporary job and entry-level position insight, I figured out how to take an expert assessment through an alternate quantify and oversee everything right, which will be extremely useful in my future work environment.

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APPENDIX B: Company Details

TRIANGLE SERVICE LIMITED (TSL)

Wakil Tower (7th Floor Ta, 131 Gulshan Badda Link Rd, Dhaka 1212

+88009666-770444

https://www.trianle.com.bd

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REFERENCES

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Recommendation letter

TRIANGLE SERVICES®

5th September 2021

TO WHOM IT MAY CONCERN

This is to certify that Hasan Imam Nahid has served as an Intern at Computer Network and Computer Fundamentals of Triangle Services Ltd from 5th June 2021 to 5th September 2021. His performance and attendance were regular and satisfactory. During this period he adhered to all the rules and regulations of Triangle Services Ltd and did not take part in any non-disciplinary activities to my knowledge.

I wish him every success in his life.

Sincerely,

Sajib Nandi
Sr. Network Engineer
Triangle Services Limited | ASN45766

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