

TANJIM BIN FARUK



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EDUCATION

Bangladesh University of Engineering and Technology

February 2016 - Present

Undergraduate

CGPA: 3.63/4.00

Department of Computer Science and Engineering

Notre Dame College

July 2013 - June 2015

Higher Secondary Certificate

GPA: 5.00/5.00

Government Laboratory High School

January 2003 - June 2013

Secondary School Certificate

GPA: 5.00/5.00

TECHNICAL SKILLS

Computer Languages

C, C++, Java, SQL, Assembly (8086), HTML, L^AT_EX, Shell script

Database

Oracle, MySQL

Software

Android Studio, MATLAB, JavaFX, Proteus, Atmel Studio, VirtualBox

Operating Systems

Windows, Ubuntu, macOS, xv6

Familiar

Python, PHP, CSS, OpenGL

Hardware Devices

Atmega32, Arduino

ACADEMIC PROJECTS

Torrent Download Manager

December 2016

Object Oriented Programming Sessional

- Developed a peer-to-peer file sharing system using Java & JavaFX.

Cricket Database Management

January 2018

Database Sessional

- Worked extensively on Oracle PL/SQL to create a Cricket DB with add and search functionality of matches and players, with JavaFX on the Front-end & Java on the back-end.

Wireless Buzzer System

July 2018

Microcontroller & Embedded Systems Sessional

- Worked with Atmega32 & Arduino micro-controller to develop a wireless buzzer system to be used on Quiz competitions. Although the project was incomplete, learned substantially about Serial Peripheral Interface (SPI) and Universal Synchronous/Asynchronous Receiver/Transmitter (USART).

Computer Architecture

April - August 2018

Computer Architecture Sessional

- Designed & implemented a 4-bit Arithmetic & Logical Unit in hardware. Designed & implemented a MIPS 4-bit Processor in software. The simulation was done in Proteus. The processor could support arithmetic, logic, memory and control instructions. Designed & implemented a Floating point adder in software which could take 16 bits floating points as inputs and output their sum. Logisim was used for simulation.

RELEVANT LAB WORK

Data Structures & Algorithms

September 2017 - January 2018

Data Structures & Algorithms Sessional

- Learned and implemented various data structures & algorithms including linked list, heap, binary search tree, graph, divide and conquer, quick sort, Huffman coding, Coin change, Minimum Spanning Tree, Max Flow, Floyd-Warshall, Bellman Ford, Hashing, Red-Black Tree & Branch and Bound.

Compiler

April - July 2018

Compiler Sessional

- Developed a compiler for the subset of C language with symbol table, scanner (Flex), parser (Bison), and intermediate code generation. The resulting assembly code could run on an 8086 emulator.

Design Patterns

July 2018

Software Engineering Sessional

- Learned about version controlling (Git) & Creational, Structural, and behavioral design patterns.

Computer Networks

November - February 2019

Computer Networking Sessional

- Implemented an HTTP server, Distance Vector Routing, Reliable Transport Protocol (Alternating bit & Go-Back-N), worked on NS2, packet tracer, and learned about wireshark.

xv6 Operating System

February 2019

Operating System Sessional

- Implemented system call, socket programming & memory management (paging) on xv6.

Information & System Design

February 2019

Information & System Design Sessional

- Implemented Unit Testing using JUnit. Worked on designing a software project with requirement analysis, entity relationship diagram, use case diagram, class diagrams, sequence diagram, data flow diagram, and Gantt chart.

Ray Tracing

July 2019

Computer Graphics Sessional

- Implemented an OpenGL graphics pipeline from scratch with integrated camera movements, sphere, pyramid, and checkerboard rendering & different color components and reflection.

Computer Security

July 2019

Computer Security Sessional

- Learned about buffer overflow vulnerability including address space randomization, stack protector & shellcode.
- Learned about set-uid vulnerability & capability leak attack.

THESIS

Network Intrusion & Anomaly Detection

April 2019 - Present

- Under the supervision of **Dr. Md. Shohrab Hossain**, currently working on Linux kernel module rootkit analysis & detection. Also coordinating with **Bangladesh Computer Incident Response Team (BD-CIRT)** for hands on security fundamentals.

CO-CURRICULAR ACTIVITES

Quizzing 2009 - Present

- Participated in various quiz competitions since school days. Represented school team (QCL Granite), college teams (NDC Blue, NDC Gold), and BUET team, won numerous accolades, met new people, and made many friends along the way who share the same zest for knowledge.

Online Instructor 2019

- Created content for an online course at [YSIBangla](#)

Volunteer 2015

- Volunteered at the Sweden Bangladesh Nobel Memorial Quiz at BUET organized by Embassy of Sweden

LEADERSHIP ACTIVITIES

Vice President 2018 - Present

BUET Brainiacs

Have been involved with the club from the onset of undergraduate stuides. Successfully organized a number of different programs including *Potterbrawl (2018, 2019)*, *Freshers' Quiz 2019*, *World Cup Quiz 2019*, *TV Series Quiz 2018*, and *Liberation War Quiz 2018* among others.

Assistant General Secretary 2014 - 2015

Notre Dame Science Club

Successfully organized the quiz segment of Annual Science Festival 2015 with my then fellow teammates.

Vice President (Quiz) 2012 - 2013

Quiz Club of the Laboratorians

Successfully organized the 7th Laboratorians Festival (2013) as part of the then executive committee.

ACHIEVEMENTS

Deans List Scholarship 2018

- For excellent academic performance

Liberation War Quiz (1st) 2018

- Oorganized by BUET Brainiacs

General Knowledge Competition (1st) 2018

- University level competition organized by Dhaka College Science Club

Hack-A-Day (1st) 2018

- Oorganized by BUET CSE department

General Knowledge Competition (3rd) 2017

- University level competition organized by Notre Dame Science Club

General Knowledge Competition (2nd) 2017

- University level competition organized by Viqarunnisa Noon Earth Club

General Knowledge Competition (2nd) 2017

- University level competition organized by Dhaka Residential Model College Science Club

Udvashito Mukh (2nd)

2013

- Open book exam organized by [Udvash](#) based on SSC syllabus

Rubik's Cube Competition (1st)

2011

- Organized by Viqarunnisa Noon Science Club

British Council English Course

2010

- Completed Senior Young Learners 2 course with excellent grade in all categories

OTHER ACTIVITIES

Problem Solving

2016 - Present

I try to learn about new data structures and algorithms, read blogs & solve problems regularly.

- [Link to UVa Account](#)
- [Link to LightOJ account](#)
- [Link to Codeforces account](#)
- [Link to LeetCode account](#)