

Mahim Mahbub

+880 1925695878

@ mahim.mahbub.97@gmail.com

in mahim

Mahim1997

EDUCATION

B.Sc. in Computer Science and Engineering

Bangladesh University of Engineering and Technology

CGPA: 3.93 on a scale of 4.00

Position: 4th out of 142 students

February, 2016 – February, 2021

RESEARCH EXPERIENCE

wQFM: Highly Accurate Genome-scale Species Tree Estimation from Weighted Quartets ↗

Supervisors: Dr. Md. Shamsuzzoha Bayzid, Dr. Rezwana Reaz, Dr. M. Saifur Rahman

Collaborator: Zahin Wahab

- Developed new codebase to efficiently handle moderate to large datasets in terms of running time and memory.
- Performed extensive experimental analysis on simulated and biological datasets.
- Using extensive statistical analysis, implemented a novel dynamic partitioning scheme based on data distribution.

Bangla Audio Feature Extraction and Classification

(Ongoing)

Supervisor: Dr. Muhammad Abdullah Adnan

Collaborator: Rafi Ur Rashid

- Curated a dataset containing more than 5,000 audio files (average length: 5.2 mins)
- Extracted various features including MFCC, mel-spectrograms, ZCS, RMS and AE.
- Experimented with various deep learning models including CNN, BiLSTM and Transformer networks

Comprehensive Analysis of CoMP Networks ↗

Supervisor: Dr. Farhad Hossain

Collaborator: Abdullah Bin Shams

- Developed codebase to perform simulations for CoMP networks under various conditions including DPS and JT.
- Introduced and experimented with new metrics to efficiently model the scenario of call drop.

PUBLICATIONS

- **Mahim Mahbub**, Zahin Wahab, Rezwana Reaz, M Saifur Rahman, Md. Shamsuzzoha Bayzid, wQFM: Highly Accurate Genome-scale Species Tree Estimation from Weighted Quartets, Bioinformatics, 2021;, btab428, <https://doi.org/10.1093/bioinformatics/btab428>

WORK EXPERIENCE

Junior Software Engineer: REVE Systems Ltd.

February, 2021 – Present

- Contributed to **Machine Translation** project as a part of both **ML RnD** team and **Mobile Development** team
- Designed, implemented and tested the first version of the cross-platform Mobile App.
- Used Flutter and Dart to implement the codebase and ObjectBox database to efficiently store data.
- Experimented with various architectures for machine translation using PyTorch

SELECTED PROJECTS

Censorship Analyzer ↗

Python Django Java JavaFX SQLite tshark scapy

- Developed an interactive tool to detect methods of censorship and display various statistics.
- Implemented various network based modules in Python using scapy, tshark, and TOR API.

Hall Management System ↗

Java JavaFX Oracle

- Designed and developed a fully functioning University Hall Management System for Desktop Application.
- Implemented efficient DBMS queries using PL/SQL with Oracle Database and used JavaFX for user friendly UI.

C Language Compiler ↗

C Bison Flex Assembly

- Developed a compiler for a subset of C language covering variables, conditions, functions and symbol table.
- Performed lexical analysis using Flex and syntactic analysis using Bison.

Remote Control Car using Hand Gestures ↗

ATMega-32 Sonar Sensor RF encoder-decoder

TECHNICAL SKILLS

Programming & Scripting Languages: Java Python Dart C++ MATLAB R SQL Bash




Databases and Frameworks: ObjectBox Oracle MySQL SQLite Flutter Django JavaFX

Environments: NetBeans Anrdoid Studio Code::Blocks PyCharm

Machine Learning Libraries: Keras TensorFlow PyTorch scikit-learn

Operating and Embedded Systems: Windows Linux xv6 Arduino ATMega-32

ACHIEVEMENTS

1. Dean's List Awardee for all terms of Undergraduate Program. 2016 – 2020
2. University Merit Scholarship Awardee for all terms of Undergraduate Program. 2016 – 2020
3. Champion Team in COVID-19 Idea Contest  - *IEEE Computer Society, BUET* 2020
4. Second Runner-Up in Poster Competition on Green Technology  - *BRIS* 2020
5. Silver Award in Poster Competition on Green Technology  - *BRIS* 2020
6. Edexcel High Achiever's awards (World Highest) in A Levels Chemistry & Physics - *Pearson, Edexcel* 2015
7. 9th place holder in 6th Bangladesh Chemistry Olympiad - *Bangladesh Chemical Society* 2014
8. Edexcel High Achiever's awards (World Highest) in O Levels Mathematics B - *Pearson, Edexcel* 2013

REFERENCES

Dr. Md. Shamsuzzoha Bayzid - *Associate Professor*
Department of Computer Science and Engineering
Bangladesh University of Engineering and Technology

shams_bayzid@cse.buet.ac.bd

Dr. Rezwana Reaz - *Assistant Professor*
Department of Computer Science and Engineering
Bangladesh University of Engineering and Technology

rimpi@cse.buet.ac.bd