

# Md. Zarif Ul Alam

CS UNDERGRAD

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## Education

### Bangladesh University of Engineering and Technology (BUET)

B.Sc. in Computer Science and Engineering

Dhaka, Bangladesh

April 2018 - Present

- Currently in 3rd Year
- CGPA : 3.86/4

## Skills

<b>Programming Languages</b>	C++ , Python , Java , C# , Go
<b>Frameworks</b>	TensorFlow , Keras , PyTorch , Django , JavaFx
<b>Database</b>	Oracle
<b>Tools</b>	Git , Bash , Docker

## Research

### Short Text Stream Clustering

Submitted to **SIGIR 2022**

Supervisor : Dr. Shubhra Kanti Karmaker (Auburn University)

May 2021 - Jan. 2022

- We proposed a new method called One Pass Sentence Embedding Clustering (OPSEC) - an online one-pass algorithm that leverages similarity scores based on sentence embeddings to cluster short texts. Experiments with popular benchmark data-sets demonstrate that sentence-embeddings can outperform existing state-of-the-art short text stream clustering methods in terms of clustering accuracy and quality.

### Application and Interpretation of Ensemble Methods for Darknet Traffic Classification

Supervisor : Md. Toufikuzzaman (BUET)

Dec. 2020

- We successfully applied ensemble machine learning methods on the recently published CIC-Darknet2020 dataset to distinguish Darknet traffic apart from the Benign ones (with 98% accuracy) and further identify the type of application running beneath the Darknet traffic (with 97% accuracy)
- Besides, we adopted a game-theoretic approach to show the impact of the features and interpret the output of the machine learning models to better understand the behavior of the Darknet traffic.

## Work Experience

### ICT Cell, BUET

Part-time

Software Developer

Dec. 2021 - Present

- Creating a custom software to make advance payment for the office of Directorate of Advisory, Extension and Research Services (DAERS)

### Xu Lab, Carnegie Mellon University

Remote

Research Intern

Jan. 2022 - Present

- Working on biomedical image segmentation

### Big Data Intelligence (BDI) Lab, Auburn University

Remote

Research Intern

May 2021 - Jan. 2022

- Worked under Shubhra Kanti Karmaker, Assistant Professor, Auburn University, Alabama on Short Text Stream Clustering

### Unilever

Part-time

BizLearner (Machine Learning), Unilever Forecast Engine

Nov. 2021 - Dec. 2021

- Worked with a team that developed a new sales forecasting model for Unilever Bangladesh

## Other Experience

### Kaggle

zarif98sjs

Competition Medalist

Dec. 2020 - Present

- Working on real life ML and DL problems, by collaborating with people all over the world
- Silver Medalist**, *G2Net Gravitational Wave Detection* : Worked on finding Gravitational Wave signals from the mergers of Binary Black Holes
- Top 12 %**, *Shopee - Price Match Guarantee* : Applied machine learning to build a model that predicts which items are the same products
- Top 12 %**, *Rock, Paper, Scissors* : Used Reinforcement Learning to create an AI for the famous Rock, Paper, Scissors game
- Top 14 %**, *Cassava Leaf Disease Classification* : Classified Cassava Leaf Disease, which helps farmers to quickly identify diseased plants, potentially saving their crops before they inflict irreparable damage

### Upwork

Freelance Machine Learning Developer

Sep. 2021 - Present

- Working as a freelance Machine Learning Developer, solving problems for clients

## Projects

### MooBot

Python, Discord API, Graph API

April. 2021

- Created a notification system for Moodle. Moodle doesn't come with built-in notification system. So I created one, synced with a discord bot. This helped my fellow university students to get quick notification from Moodle

### Yet Another C Compiler

Flex, Bison, Compiler Design

March. 2021

- Made a subset C Compiler using flex and bison. Also implemented a lot of compiler code optimization

### innOcity

Web Development, Database, Django, Oracle

Dec. 2020

- Created a hotel booking platform using Oracle database and Django framework

### T-Rex On Mars

Unity Game Engine

Aug. 2020

- Recreated the old classic game T-Rex from scratch using Unity

### Durbeen

JavaFx, Java

Jan. 2019

- Created a visual programming platform for kids in my mother language Bangla. Highly inspired from MIT's Scratch

### Game of Pawns

OpenGL, iGraphics, C++

Aug. 2018

- Implemented multiplayer, single player and blitz mode using iGraphics Library and a custom mini chess algorithm for the single player mode

## Honors & Awards

### Silver Medal

G2Net Gravitational Wave Detection Competition

Kaggle

### Dean's List Award

Received Dean's List Award in all terms

BUET

### University Merit Scholarship

Received University Merit Scholarship in 2 terms

BUET

### Rated 1900+

CodeChef

CodeChef

### Finalist

CodeSamurai : 2019

Dhaka University

### First Runners Up

Hackathon on Cloud Computing

BUET CSE Festival