

Anan Ghosh

RESEARCHER

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Career Objective

I am currently a graduate student in Computer Science and Engineering from North South University in Bangladesh. I am a passionate Machine Learning, Computer Vision, and Natural Language Processing researcher who prefers conducting analytical work and has a deep interest in software engineering. I am now involved in computer vision, natural language processing, and biomedical research. To compensate for the complexity and analytical work, I am willing to develop better problem-solving methodologies and experiment with new technologies and tools as needed.

Education

NSU(North South University)

Dhaka, Bangladesh

BACHELOR OF SCIENCE IN COMPUTER SCIENCE AND ENGINEERING

Jan 2018 - May 2022

- Cgpa: 3.15 out of 4.00

Key courses

- Machine Learning
- Pattern Recognition and Neural Network
- Data Structures and Algorithms
- Theory of Computation
- Software Engineering
- Data Communication & Network
- Concepts of Programming Languages

Academic Research

Training Pruned Language Model

CSE499 - UNDERGRADUATE DISSERTATION

Sep. 2021 - April 2022

- A more greener, resource-saving, and substantially smaller model may be accomplished as well as a bigger model by lowering storage needs and enhancing inference computing efficiency without losing comparative performance in distinct down-streaming tasks. This model can also be used as a few-shot learner, with the network's sparsity rate trimmed up to 90%. Using the Lottery Ticket Hypothesis, this few shot learning model may be reduced without compromising performance on Bangla NLP tasks.

An Incremental Learning Based Arrhythmia Detection, Data Collection, and Monitoring System

CSE299 - JUNIOR DESIGN PROJECT & CSE498R - CO-OP RESEARCH PROJECT

Jan. 2021 - Sep. 2021

- An individual can keep track of their cardiac arrhythmia situations and ECG graphs. Data and predicted beats can be forwarded for validation. Each predicted beat may be verified by doctors. Depending on a set of criteria, the model is trained after a specified amount of time.

Emotional Reactions and Family Resilience During COVID-19 Lockdown Period among Bangladeshi Families

CSE445 - MACHINE LEARNING RESEARCH PROJECT

May 2021 - Sep. 2021

- This is a research project that focuses on the emotional emotions and family resilience of Bangladeshi families during the COVID-19 lockdown period. The purpose of the study is to learn more about how the structure of the family affects the emotional states of families during lockdown.

Image synthesis with Normalizing Flows

CSE465 - PATTERN RECOGNITION AND NEURAL NETWORK RESEARCH PROJECT

May 2021 - Sep. 2021

- We applied Normalizing flows to help produce additional synthetic X-Ray image samples of chest X-Rays that tested positive for COVID-19 for this study. We present our technique to creating synthetic pictures using normalizing flows, as well as the theory underlying normalizing flows and the overall outcomes, in this study.

Notable Projects

Safe Education

CSE115 - PROGRAMMING LANGUAGE I PROJECT

Jan. 2018 - April 2018

- In this project, we are attempting to create programs that will secure the question paper. The question paper will be encrypted once it is uploaded into the program. Only those with authorization can use a password to gain access to this program. The question paper will then be decrypted and returned to its original form.

Janao

CSE323 - OPERATING SYSTEMS DESIGN

May 2020 - Aug. 2020

- In a densely populated country like Bangladesh, local law enforcement institutions struggle to provide protection to the majority of the population. A user may easily report crimes to a secure database using the Flutter-based app, and the local law enforcement agency can then take necessary action based on the information.

Document Management System

CSE327 - SOFTWARE ENGINEERING PROJECT

Jan. 2021 - April 2021

- The goal of this project is to digitize existing Department of Finance records and data. The converted digital format will be stored at a storage location determined by the Department of Finance, where it will be attached using a simple document system capable of search and retrieval

Airline Management

CSE311 - DATABASE SYSTEMS PROJECT

Sep. 2019 - Dec. 2019

- We created a database for a random commercial airline, complete with staff, positions, and personal data/information, as part of this project. Varied plane types, itineraries, and different routes are appropriate for different classes. We can easily run an airline company if we have authority over this sort of data.

Honors & Awards

2020 **First Place**, Midnight Hackathon-NSU ACM Research and Development

Dhaka Bangladesh

Interests Area

- Computer Vision
- Natural Language Processing
- Artificial Intelligence
- Machine Learning
- Biomedical Engineering

Skills

Languages	Python, Java, C++, C
Libraries and Frameworks	Keras, Tensorflow, Pytorch, Django, Pandas, Matplotlib, OpenCV, Scikit learn, Numpy
Front-end	HTML5, CSS3
Database	MySQL, Firebase
Operating System	Linux, Windows
Other	Git, Slack, Trello, LaTeX, Collaborative Teamwork and Leadership, Delegating Work Assignments

Extracurricular Activity

NSU ACM Student Chapter

SUB EXECUTIVE

Dhaka, Bangladesh

February 2021 - February 2022

- Organized one of the signature NSU ACM events HACKNSU season 4
- Involved with the planing and execution of the Innovation Challenge

NSU ACM Student Chapter

IN-CHARGE

Dhaka, Bangladesh

January 2020 - January 2021

- Conducting execution of Hour of Code and HACKNSU season 3

References

Dr. Nabeel Mohammed Associate Professor Department of ECE North South University, Dhaka, Bangladesh Email: nabeel.mohammed@northsouth.edu Contact Number: +8801720505591	Dr. Tanzilur Rahman Associate Professor Department of ECE North South University, Dhaka, Bangladesh Email: tanzilur.rahman@northsouth.edu Contact Number: +8801879462452
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