

Nazmul Takbir

ASPIRING COMPUTER SYSTEMS RESEARCHER

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Research Interests

Focusing on the intersection of **Computer Systems** and **Machine Learning**. Key areas of interest include:

- Systems for Machine Learning
- Computer Networks
- Distributed Systems

Education

Bangladesh University of Engineering and Technology

Dhaka, Bangladesh

BSc in Computer Science and Engineering

April 2018 - May 2023

- CGPA: 3.92
- Notable Courses: Computer Networks, Machine Learning, Operating System, High Performance Database Systems, Artificial Intelligence

Research Experience

Leveraging Serverless for Online Machine Learning on Streaming Data

May 2022-August 2023

Undergraduate Thesis, supervised by Dr. Muhammad Abdullah Adnan


- Developed a proof-of-concept system for training online machine learning models using serverless computing on AWS, evaluating its monetary cost, training latency, and performance against traditional VM-based systems.
- Paper currently under review

Projects Related to Research Interests

Digitization of Bangla Handwritten Text

Using Convolutional Recurrent Neural Networks with CTC-Loss to perform Word-Level Text Recognition


March 2023

- Implemented using PyTorch
- Codebase 

Tool for Building and Training Deep Learning Models using just NumPy

February 2023

Implementing DNNs and CNNs from scratch, for example AlexNet

- Supports common modules like ConvolutionalLayer, FullyConnectedLayer, MaxPoolLayer
- Codebase 

Implementing TCP LR-NewReno Congestion Control in Network Simulator 3 (NS3)

February 2022


Replicating the Results Presented in the original paper for TCP LR-NewReno

- Codebase 

Operating Systems Project

February 2022

Paging Framework for xv6 Operating System

- Take out some pages and store them to disk, and retrieve other pages back to the memory on demand.
- Codebase 

Industry Experience

Software Engineer at Chaldal.com

June 2023 - Present

Chaldal.com is Bangladesh's largest grocery e-commerce platform

- I work in the team that builds software for streamlining supply chain operations, including demand forecasting and inventory management
- C# | Python | Microsoft SQL Server | ASP.NET

Achievements

2022 **Grant**, Student Research Grant by Research and Innovation Centre for Science and Engineering, BUET
multiple **Academic**, University Merit Scholarship
multiple **Academic**, Dean's List Scholarship

2020 **Hackathon**, 1st Runner Up, HackNSU
2020 **Hackathon**, Finalist, HackTheVerse DU



Skills

Languages Python, C, C++, Java, C#, Javascript, Bash
ML Framework PyTorch
Networking NS3, PacketTracer, Wireshark
Database PostgreSQL, Microsoft SQL Server
Cloud & Deployment AWS, Kubernetes, Docker, Git
Miscellaneous LaTeX, ASP.NET, Node.js, React, Django

Development Projects

BIIS++ 2022

University management system for streamlining academic and administrative processes.

- React | Nodejs | Javascript | PostgreSQL
- Codebase  | Demo 


Zarad 2020

E-commerce website for buyers and sellers

- Django | Python | Bootstrap
- Codebase  | Demo 

Bus Radar 2021

An Android app for information on local buses such as routes, fares, and availability

- Android Studio | Java
- Codebase 

Test Scores

TOEFL 115 (R: 30, L:30, S:26, W: 29)

GRE 334 (Q: 169, V:165, AWA: 4)

References

Dr. Muhammad Abdullah Adnan

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Dr. Mohammad Saifur Rahman

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