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Portfolio: afmjoaa.github.io 🔗

👤 PROFILES

in **LinkedIn** 🔗

⬤ **GitHub** 🔗

🎓 **Google Scholar** 🔗

▶️ **YouTube** 🔗

</> **LeetCode** 🔗

✨ SKILLS

Machine Learning

Symbolic ML | NLP | Deep Learning
Hugging Face | PyTorch | Lightning
TensorFlow | Keras | Data analysis
Image analysis

Software Development

Flutter | Android | iOS | Spring Boot
Flask | ASP.NET Core | Python | Dart
Java | Kotlin | GoLang | C# | JS
TS | C | RESTful API | GraphQL | gRPC
WebSocket | MQTT

Infrastructure

Docker | Redis | Oracle | PostgreSQL
MongoDB | Azure | GCP | Firebase
AWS | MPI | bash

Personal

Result Driven | Quick Learner | Resilient
Proactive | Innovative

🎓 EDUCATION

2022 - 2023
MASTER OF SCIENCE
Computer Science & Engineering
(Natural Language Processing)
BRAC University, Dhaka
CGPA : 4.00/4.00
Award: Scholarship

2016 - 2019
BACHELOR OF SCIENCE
Biomedical Engineering
Military Institute of Science and
Technology, Dhaka
CGPA : 3.47/4.00
Award: Dean's List of Honour

A F M Mohimenul Joaa

Data Scientist, NHR Fellow & PhD Candidate at TU Dresden
M.Sc in Computer Science & Engineering (NLP)
BRAC University, Dhaka, Bangladesh

I was recently selected as a fellow for the fourth cohort of the NHR Graduate School 🔗 and will begin my PhD journey on April 1st. With a background in Computer Science and over four years of experience in software engineering, I'm passionate about applied NLP, solving complex problems, and building scalable solutions. Beyond research and development, I enjoy hiking, teaching, and collaborating with others.

💼 EXPERIENCE

NOV 2024
PRESENT
Brac University 🔗
Reasearch Assistant

I recently joined Professor Swakkhar Shatabda's 🔗 research team as a Research Assistant, where I am working on applied NLP and LLM based research projects.

ML | NLP | PyTorch | Hugging Face | Kaggle

DEC 2023
JUN 2024
Interactive Cares 🔗
Support Instructor

As a Support Instructor at Interactive Cares, I taught programming, data structures, and cross-platform mobile and web application development using Flutter through weekly conceptual classes.

Problem Solving | Data Structure | Flutter | Teaching

AUG 2023
NOV 2024
Code Intel 🔗
Senior Software Engineer

While completing my MSc thesis, I worked remotely as a part-time Senior Software Engineer specializing in ASP.NET Core and Kentico CMS at CodeIntel. I developed tech solutions for the mortgage industry, provided expert consulting, and led the development and architecture of their lead collection chatbot. 🔗

ML | NLP | Flutter | dart | C# | ASP.Net Core | Kentico CMS

MAR 2020
JUL 2023
bKash 🔗
Software & Solution Engineer

At bKash Initially, as a mobile app engineer, I helped develop the Agent 🔗 and Customer 🔗 app and worked with the Advanced Research Team during my final year. Notable products that I have made and contributed to include server driven UI for mobile apps, auto payment system, PIN reset system, Information update system, bKash Map, loyelty point, savings etc.

Flutter | Android | iOS | Spring Boot | Microservices | gRPC | BLoC | OCR
PyTorch | Lightning | AWS | Dart | Java | Kotlin | python | JSON Schema

JAN 2020
MAR 2020
Military Institute of Science and Technology 🔗
Research Intern

Developed an online report system for the Armed Forces Institute of Pathology and designed the UI, communication protocol, and control system for a COVID-19 homegrown ventilator project.

Flutter | PID Controller | Arduino | Raspberry Pi | WPF | C# | Oracle | Node.js

PUBLICATIONS

MAY 2024 | **Curious Learner: A Neuro-Symbolic Approach for Function Execution via Natural Language** 🔗

I developed a neuro-symbolic generative model that can execute tasks via natural language. In experiments on translating mathematical functions to and from natural language, our 111M parameter model achieved impressive results, demonstrating its potential for NLP-based command-line tools, customer service automation and natural language-based operating systems.

`NLP` `Transformer` `Foundational Model` `Sentence transformer` `Pytorch` `Python`

FEBRUAY 2024 | **Siamese-Transformer Network for Offline Handwritten Signature Verification using Few-shot** 🔗

A Siamese-Transformer network for distinguishing between genuine and forged signatures is proposed & built, combining Siamese networks and Transformers. The model achieves 99.17% accuracy and a 0.99 F1 score in few-shot learning, demonstrating strong performance on benchmark datasets.

`Siamese Neural Netwrok` `Transformer Encoder layer` `CNN` `Triplet Loss` `Pytorch` `Python`

MAY 2018 | **Development of Low Cost Central Monitoring Platform by Modeling and Simulation for Patients Care in Low Middle Income Countries** 🔗

Proposed and developed a cost-effective, centralized patient monitoring system for low-middle income countries that can monitor vital signs like heart rate, oxygen levels, and blood pressure. This system aims to improve patient care by making it easier for doctors to monitor their patients and respond quickly.

`Raspberry Pi 3` `Arduino Mega` `Python` `PyQt` `I2C Protocol` `TCP/IP` `Linux`

PROJECTS

AUGUST 2022 DECEMBER 2024 | **Machine Learning Projects** 🔗

> Transliteration Board: A Bangla Word Suggestion System for Misspellings with Future Sentence Completion in Development. 🔗
> Street Stat App detects potholes and reports road hazards in real-time using sensor data. 🔗
> Federated Extra Tree for loan approval system via decentralized data sharing. 🔗
> Identify the most effective approach for Named Entity Recognition among DNN, Spacy & BERT. 🔗

`Hugging face` `Transformer` `Spacy` `NLTK` `Pytorch` `Lightening` `Tensorflow` `Keras` `Python` `gRPC` `Flask` `Azure` `Xgboost` `Jupyter` `Docker`

AUGUST 2019 DECEMBER 2023 | **Software Projects**

> GODB: Distributed database with transactional processing and efficient GraphQL queries. 🔗
> Flutter Clean Architecture Apps Demos: Daily News App 🔗 , Weather App 🔗
> E-Med: Uploads patient reports with unique codes for distribution via the Patient App. 🔗
> Dume App: Connects students with expert tutors via customizable profiles and flexible packages. 🔗

`Android` `Java` `Kotlin` `Firebase` `GCP` `Windows Presentation Foundation` `Oracle` `Node.js` `C#` `TypeScript` `JavaScript` `Go` `GraphQL` `Json Schema` `Dart` `BLoC` `Repository Pattern` `Rest API` `Clean Architecture`

REFERENCES

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