Ashaduzzaman Sarker

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LinkedIn | GitHub | Hugging Face

CAREER OBJECTIVE

Seeking a challenging position in a progressive and innovative environment where I can leverage my expertise in Artificial Intelligence, Data Science, and Machine Learning to contribute to organizational growth and technological excellence.

ACADEMIC BACKGROUND

Bachelor of Science (BSc) in Electrical and Electronic Engineering
BRAC University, Dhaka, Bangladesh **| CGPA:** 3.21/4.00 **| Graduated:** 2021

Higher Secondary Certificate (HSC)
Cantonment Public School and College, Rangpur **| GPA:** 5.00 (Golden A+) **| Year:** 2015

Secondary School Certificate (SSC)
Sathibari ML High School, Rangpur. **| GPA**-5.00 (Golden A+) **| Year:** 2013

EXPERIENCE

Research Assistant (Data Management)

***Centre for Entrepreneurship Development (CED), BRAC University* | (*June 2022 – Present*)**

- Conducted extensive research and collected, curated, analyzed and presented up-to-date data on Bangladesh's RMG industry, focusing on supply chain visibility, ESG indices, sustainability practices, and renewable energy adoption.
- Key projects include:
  - ***Mapping export-oriented factories Mapped in Bangladesh (MiB)*** - [Link] [Map]
  - ***Exploring Adoption of Renewable Energy Technology (RET) among Apparel Exporters*** - [Link]
  - ***Addressing Climate Change and Plastic Waste in Bangladesh's Garment Industry*** - [Link]

CERTIFICATIONS

- **Deep Learning Specialization |** *Certified by DeepLearning.AI & Coursera* - [Link]
- **Machine Learning Specialization |** Certified by Stanford Online & DeepLearning.AI - [Link]
- **IBM Data Science Specialization |** Certified by IBM & Coursera - [Link]
- **TensorFlow Developer Specialization |** Certified by DeepLearning.AI & Coursera – [Link]

TECHNICAL SKILLS

Data Science & Machine Learning:

- Data cleaning, transformation, and exploration using Python (Pandas, NumPy).
- Data visualization with Matplotlib and Seaborn.
- Machine learning algorithms (Logistic Regression, Decision Trees, Random Forest, Gradient Boosting) and model evaluation techniques.
- Time Series Forecasting using ARIMA, SARIMA, Prophet, RNN, LSTM, GRU, and Transformers.

Large Language Models (LLMs):

- Fine-tuning and deployment of LLMs (e.g., GPT-2, GPT-3, Llama 3.1, BERT, DistilBERT, T5, mT5) for text generation, summarization, and question answering tasks.

Natural Language Processing (NLP):

- Text Classification, Sentiment Analysis, Named Entity Recognition (NER), Question Answering, Text Summarization, and Sequence-to-Sequence modeling using Transformers (BERT, GPT, T5).
- Experience with language modeling techniques like Masked Language Modeling (MLM) and Causal Language Modeling (CLM).

Computer Vision:

- Image Classification, Object Detection, Image Segmentation using CNNs and Vision Transformers (ViTs).
- Implemented models for tasks like image recognition and visual scene understanding.

Multimodal Vision-Language Models (VLMs):

- Integrated and developed models that combine visual and textual data for tasks such as Visual Question Answering (VQA), Image Captioning, and Multimodal Classification using frameworks like CLIP, SAM, and Vision Transformers.

TECHNICAL SKILLS

Tools & Technologies:

- **Frameworks:** TensorFlow, PyTorch, Keras, Hugging Face, Weights & Biases
- **Data Analysis**: Pandas, NumPy, Matplotlib, Seaborn
- **Version Control**: Git, GitHub
- **Platforms:** Jupyter Notebooks, Google Colab, Kaggle
- **Database Management:** SQL, MongoDB
- **Document Preparation:** MS Office Suite (Word, Excel, PowerPoint), Google Sheets

PROJECTS

Natural Language Processing (NLP) & Large Language Models (LLMs): [GitHub]

- ***Text Sentiment Classification on IMDb & MRPC Datasets (PyTorch & TensorFlow):*** Designed sentiment analysis models to classify text sentiment and detect paraphrases. Utilized Bidirectional LSTM and Transformer architectures to achieve high performance.
- ***Text Summarization with T5 & mT5 (PyTorch):*** Developed models to generate concise summaries from legal and consumer review texts, demonstrating advanced sequence-to-sequence modeling.
- ***Named Entity Recognition (NER) with Transformers (PyTorch & TensorFlow):*** Created and optimized token classification models for named entity recognition, achieving high precision on datasets like CoNLL-2003.
- ***Sequence-to-Sequence Transformers (PyTorch & TensorFlow):*** Engineered translation models to convert text between English and Spanish with high accuracy, using Marian and T5 models.
- ***Masked Language Modeling with DistilBERT & DistilRoBERTa (PyTorch):*** Enhanced language models' contextual understanding through masked language modeling, improving language comprehension on datasets like IMDb.
- ***Causal Language Modeling with GPT-2 & DistilGPT2 (PyTorch):*** Implemented causal language models, generating coherent and contextually appropriate text on datasets like ELI5 and CodeParrot.
- ***Question Answering with BERT & DistilBERT (PyTorch):*** Engineered advanced question-answering models using BERT and DistilBERT, achieving high accuracy on SQuAD and SWAG datasets.

Computer Vision: [GitHub]

- ***Image Classification with Vision Transformers & CNNs (Keras & PyTorch):*** Implemented state-of-the-art image classification models on diverse datasets like CIFAR-100 and MNIST.
- ***Object Detection with RetinaNet & Vision Transformers (PyTorch):*** Engineered object detection models, achieving high precision in localization and classification tasks.
- ***Image Segmentation with SAM & U-Net (Keras & PyTorch):*** Developed high-precision models for image segmentation, fine-tuning models like Segment Anything Model (SAM) and U-Net for exceptional accuracy.

RESEARCH INTEREST

Computer Vision, Natural Language Processing (NLP), Large Language Models (LLMs), Generative AI

ACADEMIC ACHIEVEMENTS

Talent Pool Scholarship in Primary School Scholarship Examination (PSC) [2007]
Talent Pool Scholarship in Junior School Scholarship Examination (JSC) [2010]
BRAC University Merit Based Scholarship [2017]

LANGUAGES

BANGLA: Native speaker | **ENGLISH:** Proficient

PROFESSIONAL AFFILIATION

- **R&D Laboratory, Department of EEE, BRAC University |** *Research Intern (July 2019- Feb 2020)*
- **TEN'S 360-A Digital Marketing Agency |** *Digital Marketing Intern (Apr 2017- Dec 2017)*
- **IEEE BRAC University Student Branch |** *General Member (February 2018-Jan 2021)*
- **Robotics Club of BRAC University |** *General Member (Jan 2017- Dec 2020)*

PARTICIPATION

International Conference on Energy and Power Engineering (BRACU) | *Volunteer (March 2019)*
ROTARACT Club of Dhaka Mega City North | *Volunteer [Feb 2018- Jan 2021]*
JAGGO Foundation | *Volunteer [Jan 2017- May 2020]*

REFERENCES

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