

## Faisal Ahmed

AI Researcher And Developer

Phone : +8801607389244

Email : faisal.cse16.kuet@gmail.com

Github: <https://github.com/faisalahmedbijoy>

Linkedin: <https://www.linkedin.com/in/faisal-ahmed-2a71581b1>

Sites: <https://sites.google.com/view/faisalahmedbijoy>

Youtube: <https://www.youtube.com/@learncomputersciencewithfaisal>

## CAREER OBJECTIVE

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Highly motivated AI engineer with a strong background in machine learning, deep learning, and natural language processing. I am seeking a challenging role where I can leverage my expertise to develop cutting-edge AI solutions that drive innovation and generate business value.

## WORK INTERESTS

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Deep Learning, Machine Learning, Natural Language Processing, Computer Vision, Speech Processing

## WORK EXPERIENCE

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**Business Automation Limited, Dhaka, Bangladesh**

*November, 2024 - Present*

### Machine Learning Engineer

- Developed a transformer-based AI model for next-word prediction for auto-suggestion in a product.
- Developed cluster-based remarks for auto-suggestion in a product
- Developed a time series forecasting model for a product registration count.

**Next Solution Lab, Dhaka, Bangladesh**

*February, 2024 - October, 2024*

### AI Engineer

- Developed Machine learning-based OCR solution according to the business requirements
- Research and develop transformer-based Non-English Language model for fine-tuning text classification, question answering, text summarizing, etc.

**AI Engineer (Associate)**

*April, 2022 - January, 2024*

- Developed industrial automation solutions using object detection, text recognition, GUI
- Developed name entity recognition (NER) solution for non-English documents for business requirements
- Conduct different R&D for Computer Vision and NLP-based paper implementation and product feature improvements.

## EDUCATION

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**Khulna University of Engineering & Technology, Khulna**

*February, 2017 - April, 2022*

Department of Computer Science and Engineering

*B.Sc.(Eng.), CGPA: 3.41/4.00*

**Thesis:** An Study of Building Infrastructure Recognition Using Deep Learning Methods [GitHub]

**Research paper:** F. Ahmed, M. Mahmudul Islam and S. M. Masudul Ahsan, "Building Infrastructure Classification with Hybrid Convolutional Neural Network Architecture," 2021 5th International Conference on Electrical Information and Communication Technology (EICT), Khulna, Bangladesh, 2021, pp. 1-6, doi: 10.1109/EICT54103.2021.9733635. [Link]

## SKILLS

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<b>Languages</b>	Python, Java, C/C++, JavaScript, LaTeX
<b>Database</b>	MySQL, Oracle
<b>ML/DL Framework</b>	Tensorflow, Keras, Pytorch, SpaCy, Transformer, Scikit-learn, Generative AI
<b>ML/DL Tools</b>	OpenCV, NLTK, Gensim, Numpy, Scipy, Pandas, Matplotlib, Seaborn
<b>Web development</b>	Django, Flask, React JS, PHP

## PROJECTS

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### Chat Bot using LLM with Gradio [GitHub]

The chatbot is built with Flask for the backend and uses a pre-trained model from Hugging Face for generating responses..

Tech Stack: LLM, Gen AI, Flask, Hugging Face

### Chattogram language to standard bangla language conversion [GitHub]

Developed a transformer-based Seq2Seq model to convert local Chattogram language to standard Bangla. The data was processed by the sentencepiece tokenizer.

Tech Stack: Python, PyTorch, Transformers, Seq2Seq

### Named Entity Recognition using SpaCy transformers [GitHub]

Developed a transformer-based NER model to extract the entity of a document. The model was trained on the resume dataset.

Tech Stack: Python, PyTorch, Transformers, RoBERTa

### Image Cryptography with Autoencoders [GitHub]

Image encryption and decryption using a chaotic map sequence and an autoencoder. It includes code for generating chaotic map sequences, shuffling and deshuffling images, preparing datasets, and computing performance metrics .

Tech Stack: Python, TensorFlow, OpenCV, CNN, Security

### Bangla Roberta Question and Answer [GitHub]

Bangla Question Answering model architecture is the BERT-based Roberta Model, which is trained on Bangla QA data. For training this model, the Bangla QA data is converted into the SQuAD v2 format.

Tech Stack: Python, PyTorch, Transformer

## EXTRA CURRICULUM ACTIVITIES

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- Published Computer Science related tutorials in YouTube [Link] [26K+ views and 370+ subscribers]
- Published **Natural Language Processing with Python** course on YouTube [Video Link] [GitHub]