

(+88) 01521754852

abrarfaiaz20@gmail.com

2004124@Ce.buet.ac.bd

linkedin.com/in/abrarfaiaz20

abrarfaiaz.netlify.app

github.com/abrar-faiaz

ABRAR FAIAZ

EDUCATION	<i>Bangladesh University of Engineering and Technology (BUET)</i>	Dhaka, Bangladesh
	<i>B.Sc. in Civil Engineering</i>	2021 - Present
	<i>Notre Dame College</i>	Dhaka, Bangladesh
	<i>Higher Secondary Certificate (HSC) - GPA: 5.00/5.00</i>	2018
	<i>Ideal School and College</i>	Motijheel, Dhaka, Bangladesh
	<i>Secondary School Certificate (SSC) - GPA: 5.00/5.00</i>	2008 - 2018

WORK EXPERIENCE	Chief Technology Officer (CTO) <i>ShopNot</i>	<i>(March 2026 – Present)</i>
	Leading the development of an AI-powered search engine for wearables across 400+ stores in Bangladesh. Built the end-to-end search and discovery stack using embedding-based retrieval, image search, and scalable data scraping pipelines for product matching, ranking, and search across fragmented e-commerce sources.	
	Team Lead, Machine Learning and Modeling Expert <i>Start Network Bangladesh</i>	<i>(April 2025 – Present)</i>
	Developing an AI-powered cyclone prediction system for the Bangladesh Meteorological Department, combining machine learning for forecasting cyclone metrics with a retrieval-augmented LLM system to generate localized advisories. Focused on integrating predictive modeling with language systems for actionable decision support in high-impact climate settings.	

RESEARCH PUBLICATIONS	1. <i>Physics-Guided Non-Autoregressive Transformer for Lightweight Cyclone Track Prediction in the Bay of Bengal. Expert Systems with Applications, Elsevier</i> Abrar Faiaz, Alphy Shaharin, Md. Mafizur Rahman, Md. Bazlur Rashid, S.M. Quamrul Hasan
	2. <i>Physics-Informed Concept Bottleneck Networks for Tropical Cyclone Intensity Estimation From Infrared Satellite Imagery. ISPRS Journal of Photogrammetry and Remote Sensing, Elsevier [Under review]</i> Abrar Faiaz, Rajit Raihan, Md. Mafizur Rahman, Md. Bazlur Rashid, S.M. Quamrul Hasan
	3. <i>Forecasting Air Quality by Estimating PM2.5 Concentration Level Using k-Nearest Neighbor Model in Gazipur, Bangladesh. Advances in Civil Engineering Materials, Springer</i> Rafi Uddin, Abrar Faiaz, Sk. Rakibul Islam
	4. <i>Intrusion Detection Using Convolutional Neural Network: A Color Mapping Approach on NSL-KDD Dataset. Proceedings of the 11th International Conference on Networking, Systems, and Security (NSysS '24)</i> Abrar Faiaz, Dipankar Mitra, Ranat Das Prangon
	5. <i>AI-Driven Disaster Warning System: Integrating Predictive Data with LLM for Contextualized Guideline Generation. Proceedings of the 11th International Conference on Networking, Systems, and Security (NSysS '24)</i> Abrar Faiaz, Nowshin Nawar

PROJECTS	<ol style="list-style-type: none"> 1. AI and ML Projects on Hugging Face <i>huggingface.co/Abrar20</i> Technology: Transformer-based NLP Models, PyTorch, TensorFlow, LLM, LangChain 2. Air Purifying Technology <i>Innovation Cohort-Research and Innovation Centre for Science and Engineering</i> Technology: ANSYS, 3D printing, HEPA Filter, Sensor, Brushless DC Motor 3. Cyclone Predictive and Dynamic Guideline System <i>Forewarn Bangladesh and Bangladesh Meteorological Department (Ongoing)</i> Technology: Deep Learning, LLMs, Geospatial Data Analysis, VLM, Python 4. Agri-Tech: AI-Powered Agricultural Analytics <i>agriconnect.fly.dev/ (Ongoing)</i> Technology: Computer Vision, LLM, Langchain, JavaScript, Python 						
CURRICULAR ACTIVITIES	<table border="0" style="width: 100%;"> <tr> <td style="padding-right: 20px;"><i>Director, Research & Development</i> ACI BUET Student Chapter</td> <td style="text-align: right;">May 2025</td> </tr> <tr> <td style="padding-right: 20px;"><i>Deputy Vice President</i> BUET Innovation and Designing Club (BIDC)</td> <td style="text-align: right;">June 2025</td> </tr> <tr> <td style="padding-right: 20px;"><i>Former Deputy Secretary</i> ASCE BUET Student Chapter</td> <td style="text-align: right;">May 2023</td> </tr> </table>	<i>Director, Research & Development</i> ACI BUET Student Chapter	May 2025	<i>Deputy Vice President</i> BUET Innovation and Designing Club (BIDC)	June 2025	<i>Former Deputy Secretary</i> ASCE BUET Student Chapter	May 2023
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AWARDS AND HONORS	<ul style="list-style-type: none"> • <i>Silver Medalist</i>, 5th International Data Science Olympiad (Competition Segment) 2025 • <i>Bronze Medalist</i>, 5th International Data Science Olympiad (Conference Segment) 2025 • <i>Runners-Up</i>, International Nature-based Future Challenge 2026 • <i>Sustainability Award</i>, Bangkok Business Challenge 2026 • <i>Gold Medalist</i>, World Invention Competition and Exhibition (National Round) 2025 • <i>Champion</i>, Disaster Hackathon 2.0 2024 • <i>1st Runners-Up</i>, RIMES Mapathon 2026 • <i>Finalist, 7th Place Globally</i>, ACI Eco Concrete Competition 2025 • <i>Pre-Seed Funding</i>, Research and Innovation Centre for Science and Engineering 2025 • <i>Champion</i>, Sustainable Concrete Solution Competition, ACI BUET SC 2024 • <i>2nd Runner-Up</i>, Poster Presentation Competition, ACI Students Chapter Meet 2025 • <i>Finalist</i>, Deep Learning Sprint, BUET CSE Fest 2024 						
SKILLS	<p><i>Programming Languages:</i> Python, C++, MATLAB</p> <p><i>Frameworks:</i> PyTorch, TensorFlow, Keras, Scikit-learn</p> <p><i>Libraries:</i> NumPy, Pandas, SciPy, OpenCV, Matplotlib, Seaborn</p> <p><i>Developer Tools:</i> Git, GitHub, Jupyter Notebook, VS Code</p> <p><i>Technical Areas:</i> Deep Learning, Computer Vision, Multimodal Retrieval, LLMs, Retrieval-Augmented Generation, Scalable ML Systems</p>						
RESEARCH INTERESTS	<p><i>Physics-Informed Machine Learning</i></p> <p><i>Efficient Deep Learning and Model Compression</i></p> <p><i>Representation Learning and Multimodal Learning</i></p> <p><i>Computer Vision and Image Retrieval</i></p> <p><i>Large Language Models (LLMs) and Retrieval-Augmented Systems</i></p> <p><i>Scalable Machine Learning Systems</i></p> <p><i>Geospatial and Environmental Machine Learning</i></p> <p><i>AI for Climate and Disaster Resilience</i></p>						