FABLIHA AFAF SARWAR

Enthusiastic ML practitioner with experience in fine-tuning LLMs and developing NLP solutions for low-resource languages. Skilled in Python, PyTorch, and Transformer architectures, with a passion for advancing AI-driven language technologies.

CONTACT INFORMATION

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SKILLS

- **Programming Languages**: Python, C++, PHP, SQL, HTML, CSS, Bash
- **Web Development**: Django, Bootstrap, Git/GitHub for version control
- **Machine Learning & Deep Learning:** TensorFlow, Keras, PyTorch, Scikit-learn
- **Natural Language Processing (NLP):** NLTK, spaCy, Transformers, Hugging Face
- **Image Processing & Computer Vision:** OpenCV, Scikit-image, Medical Image Processing
- **Robotics & Embedded Systems:** Raspberry Pi, Arduino, Robot Operating System (ROS)
- **Data Science & Statistical Analysis:** MATLAB, SciPy
- **Cloud & Security Tools**: AWS (Cloud Computing), Burp Suite

HONORS & AWARDS

- **7th,** Intra-University Girls Programming Contest 2023, BRAC University
- **14th,** University Rover Challenge 2023 - The Mars Society
- **3rd,** Capture The Flag Country Ranking 2023 - The CTF Time

EDUCATION

Bachelor of Computer Science
BRAC University, Dhaka, Bangladesh
October 2021 - September 2025

WORK EXPERIENCE

Lead Python Instructor
Keeron
Aug 2024 - Present
- Designed and delivered a 20-class interactive Python curriculum for young learners.
- Led hands-on classes with projects like games and simulations, reinforcing Python concepts through real-world applications.
- Provided personalized guidance on assignments and debugging, enhancing students' problem-solving skills and coding confidence.

Mentee
Banglalink
July 2024 - December 2024
- Collaborate with tech mentors to enhance skills and expand network for professional growth.
- Gain insights from industry experts, contributing to personal and career development.
- Engage in skill-building activities, leading to measurable improvement in tech competencies.

Python Developer
DIP Foundation - DIP Tech
March 2023 -Present
- Teach Python and robotics, enhancing skills for diverse learners.
- Organize tech workshops, offering practical coding experience.
- Developed Python based web apps to facilate the LMS.
- Support operations, ensuring efficient program management.

SELECTED PROJECTS

- **Web Development Project**

FabTechNetwork: Developed a Django-based platform for connecting tech enthusiasts, featuring secure user authentication, topic-specific rooms, and a matching system for project partners. Integrated real-time chat and built a user-friendly HTML/CSS frontend, showcasing full-stack development skills and commitment to tech collaboration.

- **NLP Project**

Sentiment Analysis Tool: Developed a sentiment analysis tool using Python and libraries like NLTK and spaCy to classify text from social media or reviews as positive, negative, or neutral. Implemented techniques for text preprocessing, feature extraction, and model training, showcasing the ability to analyze and derive insights from textual data.

- **Image Processing Project**

Object Detection System: Using OpenCV and deep learning frameworks like TensorFlow, implemented algorithms to detect and classify objects in real-time video streams, enhancing system perception capabilities.

- **Embedded System Project**

BRACU Mongol Tori: Worked in the Autonomous team, utilized RealSense cameras to capture depth and RGB images, developing AR tag detection, distance calculation algorithms, and image stitching techniques for panoramic views in computer vision applications.

RESEARCH PROJECTS

Bangla Sentiment Analysis Using NLP Models
- Fine-tuned BanglaBERT and mBERT to achieve 74.5% accuracy on the SentNoB dataset, outperforming prior benchmarks.
- Highlighted the effectiveness of handcrafted lexical features for low-resource language NLP.

Undergraduate Thesis: Enhancing Polyp Segmentation
- Developing advanced segmentation techniques using Vision Mamba architecture and self-supervised learning to improve detection accuracy in medical imaging.