Abu Noman Md Sakib

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RESEARCH INTERESTS

- Deep Learning, Computer Vision, Machine Learning, Artificial Intelligence, Medical Image Analysis

EDUCATION

- **Khulna University of Engineering & Technology** — Khulna, Bangladesh
  B.Sc. in Computer Science and Engineering — *February 2017 - April 2022*
  CGPA: 3.39/4.00 (3.67 in last 60 credit hours)

RESEARCH EXPERIENCE

- **Khulna University of Engineering & Technology** — January 2021 - April 2022
  Thesis work with Dr. Sk. Mohammad Masudul Ahsan
  - Worked on classification and segmentation of hemorrhagic areas in human brain from CT scan images using deep learning and image processing techniques.
  - Contributed to the research ideation by actively designing iterative approaches to experiment on the researched classification method.
  - Employed state-of-the-art deep learning algorithms to perform transfer learning tasks for the classification task.
  - From scratch, implemented two non linear image transformation methods to perform twirl and spherical operation on the segmented images.
  - Implemented iterative approaches, ran the experiments, analyzed the results, and wrote the papers.
  - Actively participated in presenting both methodologies for two research conferences where our papers got published.

PUBLICATIONS

- **Abu Noman Md Sakib,** Nipa Anjum, Sk Md Masudul Ahsan: "**Segmentation of Hemorrhagic Areas in Human Brain from CT Scan Images**", 2022 4th International Conference on Sustainable Technologies for Industry 4.0 (STI), Dhaka, Bangladesh, 2022, pp. 1-5. DOI: 10.1109/STI56238.2022.10103333

- Nipa Anjum, **Abu Noman Md Sakib,** Sk Md Masudul Ahsan: "**Classification of Brain Hemorrhage Using Deep Learning from CT Scan Images**", 2022 1st International Conference on Information and Communication Technology for Development (ICICTD), Khulna, Bangladesh, pp. 181-193. DOI: 10.1007/978-981-19-7528-8_15

- Masum Shah Junayed, Nipa Anjum, **Abu Noman Md Sakib,** Md Baharul Islam: "**A Deep CNN Model for Skin Cancer Detection and Classification**", WSCG 2021: full papers proceedings: 29. International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision, p. 71-80. DOI: 10.24132/CSRN.2021.3101.8

- Masum Shah Junayed, **Abu Noman Md Sakib,** Nipa Anjum, Md Baharul Islam, Afsana Ahsan Jeny: "**EczemaNet: A Deep CNN-based Eczema Diseases Classification**", 2020 IEEE 4th International Conference on Image Processing, Applications and Systems (IPAS), Genova, Italy, 2020, pp. 174-179. DOI: 10.1109/IPAS50080.2020.9334929

- Afsana Ahsan Jeny, **Abu Noman Md Sakib,** Masum Shah Junayed, Ikhtiar Ahmed **and** Khadija Akter Lima: "**SkNet: A Convolutional Neural Network Based Classification Approach for Skin Cancer Classes**", 2020 23rd International Conference on Computer and Information Technology (ICCIT), December, 2020. DOI: 10.1109/ICCIT51783.2020.9392716

- Parthaw Goswami, A. B. M. Aowlad Hossain, **Abu Noman Md Sakib**: "**An End-to-End Web-Based System for Rice Leaf Disease Classification using Deep Learning**", 7th International Joint Conference on Advances in Computational Intelligence (IJCACI 2023) [Accepted, to be published in Springer Book Series "Algorithms for Intelligent Systems"].

- Parthaw Goswami, Abdullah Al Safi, **Abu Noman Md Sakib,** Tirtha Datta: "**Corn Leaf Disease Identification via Transfer Learning: A Comprehensive Web-Based Solution**", 5th International Conference on on Sustainable and Innovative Solutions for Current Challenges in Engineering & Technology (ICSISCET 2023) [Accepted, to be published in Springer Book Series "Algorithms for Intelligent Systems"].

Professional Experience

- **Red.Digital Limited**   Full-time
  Software Engineer   *May 2022 - Present*
    - Responsible for assigned software developments of Red.Digital Limited.
    - Worked as a full stack web developer for multiple projects such as HRM, OTT.
- **Intelligent Machines Limited**   Internship
  AI Apprentice (Intern)   *May 2019*
    - Responsible for dataset creation and supervision
    - Guiding and managing image data contributors

Projects

- **A study on Brain Hemorrhage Classification & Segmentation from Head CT Scan Images**: **(Thesis)**

- **Traffic Signal Violation Detection System** *(GitHub)*: A Computer Vision based Traffic Signal Violation Detection System from video footage using YOLOv3 & Tkinter. (GUI Included)

- **3D Ball Balancing Game using C++ and OpenGL** *(GitHub)*: A Computer Graphics based project using C++ and OpenGL. This game was built for Computer Graphics Laboratory.

- **Candidate Recommendation System from Job Title** *(GitHub)*: An NLP focused system to extract features from given job description and suggesting relevant candidates from the database according to CV.

- **Daily (iOS App)** *(GitHub)*: iOS Based app with features such as Todo List, Weather Updates, Health Manager.

- **Smart Car Parking System (Hardware Project)** *(GitHub)*: This project aims at providing a confusion free and easy parking. It was built using Arduino Uno.

- **Turbulent Traveler (Web Development)** *(GitHub)*: A traveling blog website using asp.net framework.

- **Traveling Management System (Database)** *(GitHub)*: This Project is simple oracle sql database project on traveling management system.

Skills

- **Languages**:   Python, C, C++
- **Data Analysis**:   Scikit-learn, TensorFlow, Keras, Pytorch
- **Data Visualization**: Matplotlib, Seaborn
- **Technology**:   Git, LaTeX
- **Web Programming**:   HTML, CSS, Javascript, Angular, React, Node, Laravel, Flask
- **DBMS**:   Oracle, MySQL
- **Operating System**:   Linux (Ubuntu, Parrot), Windows

Standardized Test Scores

- **International English Language Testing System (IELTS)**   March, 2023
  Overall - 7.5 (Listening - 8.5, Reading - 7.5, Writing - 6.5, Speaking - 7.5)

- **Graduate Record Examinations (GRE)**   June, 2023
  Overall - 311 (Quant - 162, Verbal - 149, AWA - 3.5)

Contest Programming

- **Intra KUET Programming Contest**: Team: KUET_Palindrome, Position: 19th

- **Solved 400+ problems in various Online Judges**: Codeforces, UVa, Hackerrank, Vjudge

Honors and Awards

- Government Scholarship in Higher Secondary Certificate Examination (Placed 575th in Dhaka Board)

- Champion at Fresher League 2017 (Bangla Parliamentary Debate Competition), KUET (2017)

- Champion at Inter House Bangla Parliamentary Debate Competition, MCPSC (2014)

- Semifinalist at Inter Cantonment Public Bangla Parliamentary Debate Competition (2014)

Volunteer Experience

- **Organizing Secretary at KUET Adventure Club**   Khulna, Bangladesh
  Conducted various activities on campus impacting 5000+ students.   *Jan 2019 - Jan 2022*

- **Assistant General Secretary at CSE Association of KUET**   Khulna, Bangladesh
  Organized annual events within department along with the guidance of seniors and teachers.   *Feb 2018 - Feb 2019*