

# SEFATUL WASI

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## EDUCATION

**INDEPENDENT UNIVERSITY, BANGLADESH.**

**DHAKA, BANGLADESH**

Bachelor of Science in Computer Science

January 2018-November 2023

Major: Computer Science | Minor: Management Information Systems (MIS)

- **CGPA:** 3.44/4.00 (Average GPA: 3.76 / 4.00 in last 4 semesters)
- **Thesis:** “Kidney Tumor Recognition from Abdominal CT Images using Transfer Learning and Deep Convolutional Neural Networks.”; Supervisor: Dr. Saadia Binte Alam

## RESEARCH INTERESTS

Medical Image Processing, Computer-aided Diagnosis (CAD), Computer Vision, Deep Learning, Physiological Signal Processing and Renewable Energy.

## PROFESSIONAL EXPERIENCE

**DEPARTMENT OF CSE, INDEPENDENT UNIVERSITY, BANGLADESH.**

**DHAKA, BANGLADESH**

**Research and Development Officer**

October 2024-Present

- **Medical Imaging Research & Analysis (MIRA) Wing, Center for Computational & Data Sciences (CCDS):**
  - Continuing previous research work and collaborating to new projects as per requirement with Advanced Medical Engineering Research Institute (AMERI), University of Hyogo, Japan, Machine Learning Group, Qatar University and Quantum Computing Group, Algoma University, Canada.
  - Co-supervise students, manage computational resources and documentations.
  - Securing national/international research grants and collaborations.
- **Departmental Tasks:**
  - Designing feasible pipelines for thesis and yearly projects in the CSE/CS curriculum.
  - Assisting faculty with research, exam invigilation, and tutorials.
  - Contributing to the annual accreditation process by preparing reports and enhancing the university's academic recognition.

**DEPARTMENT OF CSE, INDEPENDENT UNIVERSITY, BANGLADESH.**

**DHAKA, BANGLADESH**

**Research Assistant**

June 2023-September 2024

- Worked on automatic ROI localization solutions using deep learning techniques from radiologic images.
- Analyze and process biomedical dataset for deep learning models.
- Continuation of collaboration with AMERI, University of Hyogo, Japan.

**OMDENA BANGLADESH CHAPTER, OMDENA.**

**REMOTE**

**ML Engineer**

**MAR-MAY 2023**

- Worked on a real-world AI project - 'PropertyAI' to develop an AI-powered recommendation platform for the real-estate industry in Bangladesh.
- Worked as a core team member, collaborating with over 120 international collaborators.

**DEPARTMENT OF CSE, INDEPENDENT UNIVERSITY, BANGLADESH.**

**DHAKA, BANGLADESH**

**Undergraduate Student Researcher**

July 2022-May 2023

- Worked as a thesis student on a project utilizing image processing and deep learning techniques.
- Published first paper as first author at the ISMVL 2023, Matsue, Japan.
- Collaborated with Advanced Medical Engineering Research Institute (AMERI), University of Hyogo.

**DEPARTMENT OF PHYSICAL SCIENCES, INDEPENDENT UNIVERSITY, BANGLADESH.**

**Teaching Assistant**

**2019-2022**

- Assisted the professors in experiments and tutorials (PHY101, PHY102).
- Organized national competitions like Math and Physics Olympiad.

## PUBLICATIONS

1. S. Wasi, S. B. Alam, R. Rahman, M. A. Amin and S. Kobashi, “**Kidney Tumor Recognition from Abdominal CT Images using Transfer Learning**,” 2023 IEEE 53rd International Symposium on Multiple-Valued Logic (ISMVL), Matsue, Japan, 2023, pp. 54-58, doi: 10.1109/ISMVL57333.2023.00021 **2023**

2. Hasan, M. W., Huynh, K., Soha, T. H., Rubayet, J. A. M., & Wasi, S.. “**Investigation of a Cow Urine-based Power Generation Technology Model for a Cost-Effective and Sustainable Energy Source**”, International Journal of Innovation and Applied Studies, 2023, 38(4), 779-793. **2023**

3. Joyita Faruk, Saadia Binte Alam, SK Sadia Tasnim Elma, Sefatul Wasi, Rashedur Rahman, Syoji Kobashi, “**Kidney Abnormality Detection using Segmentation-guided Classification on Computed Tomography Images**”, 2024 International Conference on Machine Learning and Cybernetics (ICMLC), Accepted on 29 July, 2024, Presented on 22 September 2024. **2024**

4. Taiseer Rakiin Ahad, Saadia Binte Alam, Farhan Zaman Ha-mim, Ashad Nur, Sefatul Wasi, Rashedur Rahman, “**Comparative Analysis of Deep Learning Models for Intracerebral Hemorrhage Detection from Computed Tomography**”, 2024 International Conference on Computer and Information Technology (ICCIT), Accepted on 28 November, 2024, Presented on 21 December 2024.

4. Joyita Faruk, Saadia Binte Alam, SK Sadia Tasnim Elma, Sefatul Wasi, Rashedur Rahman, Syoji Kobashi, “**Automatic Kidney Abnormality Localization using Abdominal CT Images**”, Journal Article to be submitted at Scientific Reports. **2024**

5. Mohammad Ashfaq Ur Rahman, Saadia Binte Alam, Sefatul Wasi, Md Maruf Kamran Sohag, Rashedur Rahman, Syoji Kobashi, “**A Deep Learning Approach for Cyst and Tumor-Cyst Classification on Abdominal CT Images**”, Journal Article to be submitted at Journal of Advanced Computational Intelligence and Intelligent Informatics. **2024**

6. Siam Tahsin Bhuiyan, Saadia Binte Alam, Sefatul Wasi, Rashedur Rahman, and Syoji Kobashi, “**Automated Semantic Segmentation of Pelvic Bones and Fracture Diagnosis from Radiographic Images**”, Journal Article to be submitted at Scientific Reports. **2024**

## TECHNICAL SKILLS

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- **AI/ML Libraries:** Tensorflow, Pytorch, OpenCV, Keras, Nibabel.
- **Programming:** C/C++, Python, Dart, MySQL.
- **Software and Web Development:** HTML, CSS, Bootstrap, Flutter, WordPress.
- **Analytical Tools, Office Software & Operating Systems:** Microsoft 365 apps, Google Workspace, Data Viz (Tableau, Power BI), MITK (Medical Imaging Software Tool), MIPAV, Linux.

## GRANTS

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**1. PELVIC FRACTURE AND BONE SEGMENTATION FROM RADIOGRAPHIC IMAGES** **2022-2024**  
IUB Sponsored Research Project  
**PI:** Dr. Saadia Binte Alam  
**Fund:** ~ \$6.3K

**2. DETECTION OF PNEUMONIA FROM CHEST X-RAY (CXR) USING DEEP LEARNING METHOD** **2024-2025**  
IUB Sponsored Research Project  
**PI:** Dr. Saadia Binte Alam  
**Fund:** ~ \$2.3K

## AWARDS & ACHIEVEMENTS

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- Dean's list 2018
- Runners-up at Intra IUB Techfest Hackathon Summer 2019
- Runners-up at Intra IUB Techfest Hackathon Autumn 2019

## PROJECTS

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**1. AI-POWERED RECOMMENDATION PLATFORM FOR THE REAL ESTATE INDUSTRY IN BANGLADESH: PROPERTYAI** **2023**

- An innovative web application named 'PropertyAI' that harnesses the power of artificial intelligence to provide recommendations for similar products and predict fair prices by meticulously analyzing Bangladesh's prominent real-estate websites.
- Worked in tasks like web scraping using scrapy, EDA and model development.

**Link:** [GitHub](#)

## **2. PLATO VI - STUDENT PERFORMANCE MONITORING SYSTEM** **2023**

- A Student Performance Monitoring System built on Flutter Web, automates the process of monitoring by mapping COs to PLOs and generating various reports.
- Utilizing flutter framework for easy cross platform access and GetX for well-organized state management.
- The team of 5 all got 'A' in database management for the project.
- Recognized as the best functional system in the course by the instructor.

**Link:** [GitHub](#)

## **EXTRACURRICULAR ACTIVITIES**

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### **1. STUDENT MENTOR**

**IEEE Computer Society IUB Student Branch Chapter** **Feb 2022-Feb 2023**

- Supervise the present executive committee as it develops and organizes various events and activities.

### **2. TREASURER**

**IEEE Computer Society IUB Student Branch Chapter** **Feb 2020-Feb 2022**

- Budget preparation and management.
- Acting as a liaison between the department and the organization.
- Reporting on official activities and events in IEEE vTools.

#### **Achievements:**

1. "Best CS Student Branch Chapter" in 2020, 2021.

### **3. IT & COMMUNICATION COORDINATOR**

**IEEE Computer Society IUB Student Branch Chapter** **Nov 2018-Feb 2020**

- Assist with different organizational responsibilities such as event management, IT, and logistics.
- Maintaining various data in spreadsheets and email management.

#### **Achievements:**

1. "Outstanding Participation in IEEE Computer Society Events" in 2018.
2. "Best IEEE Computer Society Student Chapter Award" (on Activities in 2018).

### **3. ORGANIZER, HOST**

**National Hackathon on Frontier Technologies** **2021**

### **4. ORGANIZER, JUDGES SCORE COORDINATOR**

**NASA Space Apps Challenge 2018** **2018**

## **RECOMMENDATIONS**

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### **SUPERVISOR**

**DR. SAADIA BINTE ALAM**

**Email:** [saadiabinte@iub.edu.bd](mailto:saadiabinte@iub.edu.bd)

Head & Associate Professor,

Department of Computer Science Engineering,

Director, Medical Imaging Research & Analysis (MIRA) Wing, CCDS

Independent University, Bangladesh. (IUB)

### **CO-SUPERVISOR**

**DR. MD RASHEDUR RAHMAN**

**Email:** [rashed.riyadh14sets@iub.edu.bd](mailto:rashed.riyadh14sets@iub.edu.bd)

Assistant Professor,

Department of Computer Science Engineering,

Co-Director, Medical Imaging Research & Analysis (MIRA) Wing,

CCDS

Independent University, Bangladesh. (IUB)

### **MENTOR**

**MD WAHIDUL HASAN**

**Email:** [Hasan.m.wahidulsets@iub.edu.bd](mailto:Hasan.m.wahidulsets@iub.edu.bd)

Lecturer, Department of Computer Science Engineering,

Independent University, Bangladesh. (IUB)

PhD Candidate and Fellow NASA JPL,

South Dakota School of Mines and Technology, USA.