

# Sadi Mohammad Siddiquee

Email : sadimohammad97@gmail.com

Github : SadiMohammad

Scholar : Sadi Mohammad Siddiquee

Website : sadimohammad.github.io

Citizenship : Bangladesh

## Academic History

---

**Bangladesh University of Engineering and technology, Dhaka.**

2015-2020

Bachelor of Science, Electrical and Electronic Engineering.

## Research History

---

**Research Assistant, Center for Computational and Data Science (CCDS), Independent**

Feb 2022-Feb 2023

University, Bangladesh.

- Focused on *Semi-Supervised based Segmentation for Ultra high resolution image*. Evaluated context-aware model, contrastive loss based model with memory banks on high resolution image datasets. Pursued an effort to establish a novel sota model for satellite images. The final goal was to evaluate it on in-house satellite dataset of Bangladesh.
- Worked on *Pelvic Bone Segmentation on DRR generated pelvic Xrays from CT image*. Devised a fresh approach for data annotation. Also did early benchmarking. [Github](#)

**Research Assistant, Department of Biomedical Engineering, Bangladesh University of Engineering and technology, Dhaka.**

April 2020-Jan 2021

- Worked on Project RadAssist: A Web-based and Artificial Intelligence enabled tele-radiology solution.
- Developed a novel algorithm for Covid-19 pneumonia severity detection.
- Worked with Bangabandhu Sheikh Mujib Medical University Hospital(BSMMU), Dhaka for Covid-19 data collection and annotation.

**Bengali.AI Handwritten Grapheme Classification**

- Developed Common Bengali Handwritten Graphemes in Context Dataset with a team consisting of more than 50 people. [Dataset Introductory Booklet](#)
- Established an open-sourced pipeline for Handwritten Dataset preparation. [Github](#)
- Benchmarked the Dataset by state of the art pre-trained models.

April 2019-April 2020

**Academic Research Work**

- **A Deep Convolutional-Snake Model Combination for Breast Ultrasound Image Segmentation, Bachelor's Thesis, BUET.**

Feb 2015-Feb 2020

  - Implemented end to end Benchmarking segmentation models.
  - Performed Elastic Transforms for synthatic data generation and custom activation function from Noisy Activation Functions Gulcehre et al. 2016.
  - Devised a novel way of integrating CNN-based model and active contour model for cancer cell segmentation with better spatial resolution.
  - Improved score compared to the benchmarking models in every evaluation metrics.
- **ECG, EEG and PPG based non-invasive Blood Pressure measurement, Digital Signal Processing Lab, BUET.**

Worked on a novel blood pressure (BP) estimation method based on pulse transit time (PTT) and pulse arrival time (PAT) to estimate the systolic BP (SBP) and the diastolic BP (DBP). [Project Report](#)
- **Automation of Dealer in Card games, Microprocessor and Interfacing Lab, BUET.**

Developed an automatic dealer systems for card games like blackjack using Raspberry Pi, Pi camera module, OpenCV and template matching. [Project Video](#)

## Publications

---

- Samiul Alam, Tahsin Reasat, Asif Shahriyar Sushmit, **Sadi Mohammad Siddiquee**, Fuad Rahman, Mahady Hasan, Ahmed Imtiaz Humayun, "*A Large Multi-Target Dataset of Common Bengali Handwritten Graphemes*", International Conference on Document Analysis and Recognition(ICDAR), Lausanne, 2021. Available at [Springer](#).
- Nusrat Binta Nizam, **Sadi Mohammad Siddiquee**, Mahbuba Shirin, Mohammed Imamul Hassan Bhuiyan, Taufiq Hasan, "*COVID-19 Severity Prediction from Chest X-ray Images Using an Anatomy-Aware Deep Learning Model*", Journal of Digital Imaging, 2023. Available at [Springer](#).
- **Sadi Mohammad Siddiquee**, Md. Kamrul Hasan. "*A Deep Convolutional-Snake Model Combination for Breast Ultrasound Image Segmentation*". (Bachelor's Thesis), Bangladesh University of Engineering and technology, Dhaka, 2020. Available at [Github](#).

## Academic Appointments

---

### Tutor, Dept of Computer Science, Independent University, Bangladesh.

With being a Full-time Research Assistant in Independent University, I was obliged with taking CSC101 Tutorial sessions to help undergraduate student get better in programming and algorithm. The course was conducted using the Python at that time.

## Leadership Experience

---

### Coordinator, Bengali.AI, Dhaka, Bangladesh.

Bengali.AI is an organisation with non-profit vision from Bangladesh that is focused on building crowd-sourced, metadata rich datasets and **open-sourcing** them through research competitions on Kaggle. My involvements -

- Build a Dataset on Common Bengali Handwritten Graphemes in Context.
- Landed **Kaggle Research Grant** for a featured research competition (worth 120K USD) inservices on the Kaggle Platform. [Competition](#) stayed online from Dec 2019 – Mar 2020.
- Raised Fund for prize money (10k USD) from a renowned Silicon Valley based industry.
- Organised launching ceremony and media outreach of Bengali.AI Handwritten Grapheme Classification Competition on National Press Club, Dhaka. Dr. Md. Kaykobad and Dr. Shishir Bhattacharjee was among the panelist members. [Press Release](#)
- Published a paper on Common Bengali Handwritten Graphemes Dataset and its experimentation at **ICDAR 2021**.

### Chairperson, IEEE SPS BUET Student Branch

Worked with IEEE BUET Student Branch and Signal Processing Society(SPS) BUET Chapter for more than two long years.

## Awards and Grants

---

### Champion, International Humanitarian Technology Project Competition (IHTPC) 2017.

International Humanitarian Technology Project Competition (IHTPC) 2017, organised by IEEE Humanitarian Activities Committee and IEEE Bangladesh Section was a day long project showcasing event where more than 50 projects was displayed. Our team *Team Ellipse* came out top in that event. Project title was "Personalized Health Monitoring Assistance". [Project Report](#)

### Kaggle Research Grant, 2019.

Landed Kaggle Research Grant with Bengali.AI co-organizers for a featured research competition (worth 120K USD) inservices on the Kaggle Platform. [Sponsorship Booklet 2019](#)

### Higher Secondary Board Scholarship, 2015.

Awarded with board scholarship from Bangladesh Education Board in 2015 for results in higher secondary curriculum.