Mehedi Hasan Bijoy

mhb6434@gmail.com
LinkedIn • Github • Portfolio

Academic Credential

- B.Sc. in Computer Science & Engineering
  North South University — May 2017 - Sep 2021
  CGPA: **3.81 / 4.00**
  Specialization: **Artificial Intelligence**

Experience

Mar 22 - Present — **Research Assistant**
Institute for Advanced Research, United International University
Project: Development of Deep Learning Based Bangla Spell & Grammar Checker

Feb 22 - Present — **Lab Instructor**
Department of Electrical & Computer Engineering, North South University
Courses:
- CSE225L - Data Structures and Algorithms Lab (C++)
- CSE115L - Programming Language I Lab (C)

Oct 20 - Sep 21 — **Teaching Assistant**
Department of Mathematics & Physics, North South University
Course: MAT361 - Probability & Statistics

Research Interests

Machine Learning, Meta-learning, Computer Vision, Natural Language Processing

Publication

- Image Tagging by Fine-tuning Class Semantics Using Text Data from Web Scraping
  ICCIT2021 / Paper / Oral Presentation

  Authors: **Mehedi Hasan Bijoy**, Nirob Hasan, Md. Tahrim Faroque Tushar and Shafin Rahman

Open-source

- **Imgclassifier** (code)
  A python library developed on top of PyTorch that allows a user to do image classification by writing only one line of code. (Current Version: 0.0.2)

Awards & Scholarships

- Summa Cum-laude in Bachelor of Science.
- Partial tuition fee waiver grant for undergraduate studies at North South University.

Programming Skills

- **Languages**: Python, C/C++, SQL, Java
- **DL Frameworks**: PyTorch, Keras
- **ML Libraries**: Scikit-learn, Pandas, Numpy, Matplotlib, Seaborn, NLTK, Gensim
- **Databases**: MySQL, PostgreSQL, SQLite
- **Data Visualization Tool**: Tableau
- **Web Scraping Libraries:** Beautiful Soup, Requests, Urllib, Wikipedia-API
- **Developer Tools**: LaTex, Git, Google Colab, Jupyter Notebook, Eclipse, SSMS, SQL Workbench

On-going Research Projects

- Development of Deep Learning Based Bangla Spell Checker.
- Development of Deep Learning Based Bangla Grammar Checker.
- Generalized Zero Shot Handwritten Character Recognition.

Research Projects

- **A Deep Learning Approach to Detecting Rice Leaf Diseases** *(CNN, Transfer Learning)*
  [code / demonstration-video]
  Proposed a lightweight architecture for rice leaf disease detection. Our rice leaf disease detection model outperforms previous work with 16 times fewer parameters. Also reported a thorough comparison of the performance of 9 well-known architectures (AlexNet, VGG, ResNet, etc.) with our model and achieved competitive performance with significantly lower asymptotic complexity.

- **Zero-Shot Bangla Handwritten Character Recognition** *(DL, ZSL, GZSL, KD)*
  [code / overview-video]
  Proposed a domain-specific Bangla handwritten character recognition method using an external embedding from Autoencoder and knowledge distillation technique.