Mehedi Hasan Bijoy

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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 Course: CSE115L - Programming Language I Lab (C Programming)
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: 0.0.1)

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, SQL, Java, C
- **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

Selected Projects \ Research

- **A Deep Learning Approach to Detecting Rice and Tomato Leaf Diseases** *(CNN, Transfer Learning)*
  [code / demonstration-video]
  Proposed a lightweight architecture for rice and tomato 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)*
  [code / overview-video]
  Proposed a domain-specific Bangla handwritten character recognition method using an external embedding from Autoencoder and knowledge distillation technique.

- **Quora Question Pairs** *(NLP, LSTM, Seq2seq)*
  It calculates the semantic similarities between two questions. To do so, two multi-layered unidirectional LSTM model is employed where each model takes one question as input. Then, a similarity score is generated by calculating the Manhattan distance between the final output of the model and the actual label.

- **NSU Faculty Prediction** *(ML, Classification)*
  NSU-IT hides faculty initials during advising for some reason. I built a model which predicted the faculty initial of Spring-2020 with around 70% accuracy score. It is noteworthy to mention that manually predicting faculty initials for hundreds of sections are certainly impossible.

- **MINION** *(MySQL, PHP, HTML, CSS)*
  [code / overview-video]
  It is a web application that connects drivers, maids, and recruiters. In a nutshell, it gives recruiters a chance to check driver's or maid's reviews before recruiting them.