

MUNTASIR WAHED

Research Area: Machine Learning, Self-Supervised Learning, Natural Language Processing

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Education

Virginia Tech

Ph.D. in Computer Science (GPA: 4.00/4.00)

January 2021 – December 2024 (Expected)

Blacksburg, Virginia

University of Dhaka

B.Sc. in Computer Science & Engineering (GPA: 3.66/4.00)

January 2015 – December 2018

Dhaka, Bangladesh

Experience

Tiger IT Bangladesh Limited

Software Engineer (ML)

June 2020 – December 2020

Dhaka, Bangladesh

- Conducted literature review and designed solutions using deep learning models in **Tensorflow** and **Pytorch** to solve image and signal processing problems including **face detection**, **video classification**, and analyzing **vital signs from video**. Built prototypes using Fast API and android studio to enable testing and gather feedback from users.

Data & Design Lab

Research Assistant

April 2019 – June 2020

Dhaka, Bangladesh

- Developed a dashboard for BRAC, providing various interactive visualization support to foster policy-making.
- Implemented the Unique ID generation process, which enabled BRAC to uniquely identify its more than 100 million beneficiaries, facilitating the proper use of big data in policy-making.
- Analyzed the usability of satellite data as an economic proxy to identify inequality using **geospatial data analysis**.

Enosis Solutions

Software Engineer

April 2019 – October 2019

Dhaka, Bangladesh

- Developed and maintained features using Spring framework (Java), AngularJS, and MySQL database.
- Collaborated with a mid-sized team, leveraging skills in **Issue Tracking**, **Unit Testing**, **Debugging**, **Version Control**, developing **REST API**, generating **API documentation**, and the **Agile development process**.

Selected Projects

Analysis of Research Participation in Academia and Industry | *NLP, Python, Matplotlib, Pandas* [Link to Paper](#)

- Used Causal Inference methodologies and NLP (text extraction, topic modeling) on a novel dataset (273000 peer-reviewed articles from 63 top CS conferences) to examine the top knowledge-producing organizations in AI.
- **Media Coverages:** [VentureBeat](#), [Scientific American](#), [Axios](#), [Marginal Revolution](#).
- **Cited by:** [National Security Commission on Artificial Intelligence](#), [Stanford AI Index-2021](#)

Fast Web-Scale Corpus Expansion | *NLP, Python*

[Link to Paper](#)

- Used bit-vector document representation for corpus expansion, resulting in a reduction of memory footprint by 24%, retrieval of 6.8% more rare terms, and a reduction of query execution time by 78%. (Accepted at **CIKM 2021**)

Bug Severity Classifier 🤖 | *Machine Learning, Python*

- Built a model that classifies the severity of a bug report based on the description in three different datasets using smoothed Naive Bayes classifier and feature selection (Chi-Square and Minimum Redundancy and Maximum Relevance).

Delivery Distribution System 🤖 | *Machine Learning, Python*

- Implemented a model, that assigns deliveries to different delivery persons automatically using clustering algorithms, based on two different metrics - minimizing the delivery time and minimizing the number of delivery persons needed.

Technical Skills

Languages: Python, C/C++, Java, JavaScript, R

Web: Django, Spring, AngularJS, HTML5, SASS

Libraries: Gensim, NLTK, Scikit-Learn, NumPy, Matplotlib, Pandas, Scipy, Tensorflow, Pytorch

Miscellaneous: Linux, Git, REST API, LaTeX, Android Studio

Extracurricular Activities

Competitive Programming

- **Team Participation:** ACM ICPC Dhaka Regionals 2017 (**5th**/148), SUST Inter University Programming Contest 2017 (**6th**/161), ACM ICPC Dhaka Regionals 2016 (**19th**/123), National Collegiate Programming Contest 2016 (**21st**/119)
- Worked as problem setter in National High School Programming Contest 2017, and HackerRank.

Shoshikkha - *Education Blog in Bengali*

- Founded the project and developed the website in 2015, contributed to the website as an author and editor of technical articles and tutorials about programming languages, data structures, and algorithms.