

OISHEE BINTEY HOQUE

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EDUCATION

PhD in Computer Science, *University of Virginia* | Charlottesville, VA July 2026
Relevant Coursework: Machine Learning (ML), ML in Image Processing, Interpretable ML, Design and Analysis of Algorithms
BSc in Computer Science, *Ahsanullah University of Science and Technology* | Dhaka, Bangladesh Aug-2019

RESEARCH PROJECTS

COVID-19 NPI Measure Dataset | Dataset and Analysis Ongoing

- Building county-level dataset for NPI Measures during Covid-19.
- Developing different data science models to understand the impact of the NPI measures on the pandemic.
- One Paper has been published in **Nature Scientific Data** ([Paper](#)) Jan – 2023

AI in Water Domain | Better Planning of Water Resources with AI Ongoing

- Designing frameworks for effective seasonal and long-horizon planning, forecasting, and allocation decisions.

RELEVANT PROJECTS

BDSL36 | Tool for Sign Letter Detection May - 2020

- Build a real-time sign letter detector, using transfer learning with state-of-the-art deep learning models.
- Developed a huge dataset of 4 million labeled images and 40,000 annotated images using different image processing techniques to build a robust model with a GUI for better user experience.
- Paper published in **ACCV MLCSA Workshop 2020** ([Paper](#)).

Sign Word Recognition | Action Recognition with Spatio-Temporal Data May - 2019

- Build a tool to detect sign words -sequence of actions- from a video to help deaf people better communication.
- Integrated transfer learning to detect images and LSTM to understand the combination of images resulting in a word.
- Build a dataset to perform the action-recognition task.

Human Segmentation and Background Remove | Segmentation Task Aug - 2020

- Developed a tool that can segment any human from pictures with no background constraint.
- Got a dice score of 0.654 using tools - Pytorch, Fastai, unet, resnet34, Jupyter Notebook.

WORK EXPERIENCE

USDA-NIFA/NSF AI Institute for Next Generation Food Systems (AIFS), *Research Intern* Jun 2023 – August 2023

- Mapping irrigation types from satellite images in the northwestern US using deep learning classification.

University of Virginia, *Research Assistant/Teaching Assistant* Aug 2021 – Present

- Assigned as an RA in NPI measurement and AgAID projects at Biocomplexity Institute, UVA.
- Teaching Assistant for undergraduate Mobile Application Development (Fall'22) and Machine Learning (Ongoing).

Enosis Solutions, *Software Engineer*, Dhaka, Bangladesh Aug 2020 – Aug 2021

- Worked closely with teams of 6-8 on an Incident Management Tool which tracks different occurrences of an organization using C# and MVC Framework. All code was reviewed, perfected, and pushed to production.
- Designed and developed the full stack implementation of a web platform to train/test Machine Learning models - using React.js, Node.js, Express.js and MongoDB.
- Collaborated effectively with members of the software development team and personnel in other departments.

EXTRA CURRICULAR ACTIVITIES

- Achieved **3rd Position** in 2023 AgAID Digital AgAth0n
 - Built precipitation forecasting model with given time-series dataset by using single and multistep (CNN, RNN, LSTM) models. Used linear model to interpret feature importance.
- Served as Space and Media Chair, Computer Science Graduate Student Group (CSGSG) Council – 2022.
- Achieved 11th Position, [National Girls Programming Contest-2016](#), Bangladesh.
- Achieved 64th Position, ACM ICPC DHAKA Regional 2017.

SKILLS

Python, C/C++, Java, C#, Javascript, SQL (MySQL, Oracle), MongoDB, React.js, Node.js, Express.js, MVC Framework, Jupyter Notebook, Git, Visual Studio, PyCharm, Netbeans, Codeblocks, Pandas, NumPy, Matplotlib, Tensorflow, Pytorch, FastAi