

# Umnoon Binta Ali

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## SUMMARY

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Innovative and scientifically rigorous recent graduate majoring in Computer Science and Engineering from North South University. I am a data science enthusiast. I am attentive to new technologies, take on leadership, and am good at analytical decision making.

## EDUCATION

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<b>Bachelor of Science in Computer Science and Engineering (BSCSE)</b>	2017–2022
North South University, CGPA: 3.60	
<b>Higher Secondary Certificate (HSC)</b>	2016
Rajuk Uttara Model College, GPA: 5.00	
<b>Secondary School Certificate (SSC)</b>	2014
Rajuk Uttara Model College, GPA: 5.00	

## WORK EXPERIENCE

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<b>Research Assistant</b>	April 2022 - July 2022
Department of Electrical and Computer Engineering North South University Supervisor: <a href="#">Dr. Nabeel Mohammed</a> Research Domain: Bangla NLP	

## SKILLS

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<b>Programming</b>	Python, C, C++, Java, PHP, Latex
<b>Frameworks</b>	Keras, PyTorch, Tensorflow, Pandas, Matplotlib, OpenCV, Scikit Learn
<b>Front-end</b>	HTML5, CSS3, Bootstrap, ReactJs
<b>Back-end</b>	NodeJs, MySQL
<b>Data Science Tools</b>	PowerBI, Streamlit
<b>OS</b>	Windows, Linux
<b>DevOps</b>	Git
<b>Platforms</b>	MS Office, Adobe

## CERTIFICATIONS

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- [Hyperparameter Tuning with Keras Tuner](#)
- [Deep Learning with Pytorch: GAN](#)
- [Multivariate Calculus for Machine Learning](#)
- [Data Science Math Skills](#)
- [Introduction to Artificial Intelligence](#)
- [Linear Algebra for Machine Learning](#)
- [Introduction to AR and ARCore](#)
- [Introduction to Python](#)
- [Introduction to R](#)
- [Intermediate R](#)

## PROJECTS

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### **Transfer Learning for Speaker Diarization on Bangla Audio Dataset**

[CSE499 Graduate Dissertation](#)

In this research, transfer learning was explored for speaker diarization on our own Bangla audio data. the approach experiments with different clustering algorithms and embedding techniques to reduce Diarization Error Rate, DER for noisy data.

### **Contrastive Learning for Text-to-Image on Paraphrasing Captions**

[CSE498 CO-OP Research Project](#)

In this research, I presented a contrastive learning strategy to for enhancing the quality and semantic consistency of synthetic images by paraphrasing the captions from the CUB dataset.

### **A Deep Convolutional Neural Network for Bangla Handwritten Numeral Recognition**

[CSE465 Pattern Recognition and Neural Network](#)

In this research, I studied the most unbiased and augmented Dataset NumtaDB to classify images in isolated Bangla numerals. I augmented synthetic data using Keras library, and fed the data to the training model in the pipeline stage. Furthermore, I used popular CNN network ResNet34 to better the performance of the model.

### **Tweet Emotion Recognition with Tensorflow**

[Repository](#)

I created a recurrent neural network or 'RNN' and train it on a tweet emotion dataset from hugging Face, to learn and recognize emotions in tweets. The dataset has thousands of tweets each classified in one of 6 emotions. This is a multi-class classification problem in the natural language processing domain.

### **Outbreak Prediction and Visualization with PowerBI: Covid-19**

[CSE299 Junior Design Project](#)

Here I used Global Outbreak Alert and Response Network (GOARN) data to predict the time of the highest spread of covid-19. The time-series visualization is done with Power BI.

### **Data Science webapp for motor vehicle collision in NYC**

[Streamlit](#)

I built a basic data science webapp with streamlit analyzing motor vehicle collision in NYC. I used the following libraries: numpy, pandas, pydeck and plotly

### **Calculator with JavaScript**

[JavaScript](#)

Use of ES6 classes to organize code, syncing JavaScript code with UI, CSS Grid, Flexbox etc.

## EXTRA-CURRICULAR ACTIVITIES

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### **Arduino Workshop at NSU ACM Student Chapter**

2018

Worked on building obstacle avoiding robot

### **Computer and Engineering Club at North South University**

2017–2019

Junior member

### **Debating Club at RUMC**

2012–2014

Participated in the in-house Parliamentary Debating Competition

## ATTRIBUTES

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<b>Design Skills</b>	AutoCAD, Sketch up
<b>Soft Skills</b>	Leadership, Team work, Adaptability, Digital Literacy
<b>Language Proficiency</b>	English, Bangla

## REFERENCE

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**Dr. Nabeel Mohammed**

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Department of ECE  
North South University  
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**Ms. Tanjila Farah**

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