Md. Saqib Hasan

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Education

November 2018-Present	M.Sc. in Computer Science and Engineering **Bangladesh University of Engineering and Technology (BUET)** , Dhaka **CGPA**:3.75 **Supervisor**: Dr. Muhammad Abdullah Adnan
July 2014-October 2018	B.Sc. in Computer Science and Engineering **Bangladesh University of Engineering and Technology (BUET)** , Dhaka **CGPA**: 3.8 Graduated with Honors **Thesis**: "Parameterization of Neural Network Inspired by the Biological Brain" **Supervisor**: Dr. Muhammad Abdullah Adnan
May-June 2013	A Levels **Cambridge International Examinations, CIE** 4 subjects in total **Grade**: 4 A* (90%+)
May-June 2011	O Levels **Cambridge International Examinations, CIE** 8 subjects in total **Grade**: 6 A* (90%+), 2 A (80%+)

Graduate Admission Related Exams

- **GRE-General Test**
  Quant: 166
  Verbal: 160
  AWA: 5.5
- **TOEFL**
  Reading: 30
  Listening: 30
  Speaking: 28
  Writing: 28

Research Interests

- Machine Learning and applications
- Deep Learning
- Data Analytics in the Cloud

- Cloud applications
- Natural Language Processing
- Blockchain

Research Experience

- **Undergraduate Thesis** on "Parameterization of Neural Networks Inspired by the Biological Brain"
  Supervisor: Dr. Muhammad Abdullah Adnan, Asssistant Professor, Dept. of CSE, BUET
- During research assistantship, worked on the development of a web application for analyzing real time data from social media using **Real Time Principle Component Analysis**, a method published and developed in my lab.
- During research assistantship, worked on the development of algorithms for Big Data analytics on geo-distributed data in the cloud using using feature extraction and through single pass communication.
- During research assistantship, worked on the development of unique dimensionality reduction based compression algorithms exclusively for neural network models.
- During research assistantship, worked on developing a neural architecture for improved classification of fake news on the internet.
- For a brief time during research assistantship, worked with others in the lab for development of a blockchain-based enterprise resource planning software using Hyperledger framework.
- During Masters coursework, worked on the project **"Implementing DCM (Disk Covering Method) Using Distributed Cloud-Computing Framework"** during **Bioinformatics** course. Project involved developing a tcp based framework using Python and current bioinformatics frameworks to implement dcm method for faster creation of phylogenetic trees from large datasets on a cluster of computer.
- Currently as research assistant, working on developing a unique deep learning based solution to automated detection of fake news from textual data.

Publications and Posters

- "Neuro-scientific Analysis of Weights in Neural Networks"
  Journal: Neural Processing Letters, Springer
  Status: Under review
- "Geo-distributed Deep Learning Using Feature Extraction on Big Data"
  Conference: IEEE ICDE, 2020
  Status: Under review
- "Compressing Deep Learning Models Using Dimensionality Reduction for Small Devices and the Web"
  Conference: IEEE ICDE, 2020
  Status: Under review
- "Truth or Lie: Using Attention in Deep Learning For Detection of Fake News"
  Conference: AAAI 2020
  Status: Under review
- **Poster** presented on "PCAAnalytics: Analyzing Real Time Data Using Principle Component Analysis" at the 5th International Conference on Networking, Systems and Security (5th NSysS 2018)

- **Poster** presented on "Neural.NET : A Neuro-science Based Web Application For Doctors and Researchers" at the 5th International Conference on Networking, Systems and Security (5th NSysS 2018)

Academic Honors

2018 Dean's List Award, BUET
2017 Dean's List Award, BUET
2016 Dean's List Award, BUET
2011 Cambridge Award for World Highest in subject **Additional Mathematics**
2011 Cambridge Award for Country Highest in subject **Principles of Accounting**

Extra-curricular Activities & Achievements

2018 Participated in "Bengali Handwritten Digit Recognition"
Kaggle machine learning contest organized by Bengali.AI

2017 Champion at Hackathon for Environmental Migrants in Bangladesh,
organized by Dr. Ingrid Boas, Assistant Professor at the Environmental Policy Group, Wageningen University

2017 Top 20 at Pioneros,Business Case Development Competition
organized by BUET Enterpreneurship and Development Club, BUETEDC

2016 Top 20 at HULT Prize in BUET

2016 Participated in IEEEMadC 2016, a mobile application contest developed
organized by IEEE

Technical Skills

Programming Languages:	C/C++, Java, Python, Assembly x86, MATLAB, SQL, Latex, HTML, CSS, Javascript
Frameworks and libraries:	Keras, Tensorflow, Numpy, Pandas, Scikit-learn, Bootstrap, Ionic, JQuery, Django, Pytorch, Lex, Yacc
Embedded System:	Arduino, ATMega
Development Environment:	Windows, Mac OS, Ubuntu, Amazon Web Service (EC2)
Basic tools:	Word, Excel, Powerpoint

Notable Projects

4 in a Row	The classic 4 in a row game implemented in C using the igraphics library.
BanglaTube	A clone version of youtube app, for desktops, developed using Java and socket programming.
EduEngineer	A mobile application developed using Java and Android Studio as part of international contest IEEEMadC 2016. It is a platform to share information about research and programming, which was aimed at junior year electrical and computer science students.
Hall Management System	A web application for BUET halls/hostels using Java and Oracle SQL.
Crime Watch	A mobile application where users can report about and learn about crimes in their area, developed in Ionic Framework.
Onubadok	An English to Bangla automatic translation application developed using machine learning and deep learning. It is based on the Seq2Seq, encoder-decoder neural network model for machine translation and was developed using Keras.