Md. Saqib Hasan

Address:	House No.1/4, Block-C, Flat-C4, Shaptak Sierra, Lalmatia, Dhaka
Phone:	+880 167 0259917
email:	msaquibhasan@gmail.com
website:	Link
Github:	Link

Education

July 2014-October 2018	B.Sc. in Computer Science and Engineering **Bangladesh University of Engineering and Technology (BUET)** , Dhaka **CGPA**: 3.80 out of 4.00 Degree awarded with HONOURS **Thesis**: "Analysis of Weight Distribution and Initialization in Neural Network Inspired by Neuro-science" **Supervisor**: Dr. Muhammad Abdullah Adnan
May-June 2013	A Levels **Cambridge International Examinations, CIE** **Subjects**: Mathematics, Physics, Chemistry, Economics **Grade**: 4 A* (90%+)
May-June 2011	O Levels **Cambridge International Examinations, CIE** **Subjects**: Mathematics D, Additional Mathematics, Physics, Chemistry English, Bangla, Accounting, Economics **Grade**: 6 A* (90%+), 2 A (80%+)

Work Experience

November 2018-Current	Research Assistant **Applied Machine Learning Lab** Dept. of CSE, BUET, Dhaka **Employer**: Dr. Muhammad Abdullah Adnan **Description**: Worked in developing and implementing research ideas, writing manuscripts and research proposals and presenting lab work at various organizations

Research Interests

- Artificial intelligence and machine learning
- Big data analytics
- Natural Language Processing
- HCI and social computing
- Cyber Physical Systems

Research Experience

- **Undergraduate Thesis** on "Analysis of Weight Distribution and Initialization in Neural Network Inspired by Neuro-science"
  Supervisor: Dr. Muhammad Abdullah Adnan, Asssistant Professor, Dept. of CSE, BUET
- During research assistantship, I worked on the development of a web application for analyzing real time data from social media using **Real Time Principal Component Analysis**, a method published and developed in my lab.
- During research assistantship, I 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, I worked on the development of unique dimensionality reduction based compression algorithms exclusively for neural network models.
- During research assistantship, I worked with others in the lab for development of a blockchain-based enterprise resource planning software using Hyperledger framework.
- I worked on the project **"Implementing DCM (Disk Covering Method) Using Distributed Cloud-Computing Framework"** with Dr. Md. Shamsuzzoha Bayizid. 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 network of computers.
- I worked with Dr. Rifat Shahriyar on analyzing memory safety in current versions of the language **Webassembly** and developing possible methods to solve these issues.
- As research assistant, I am 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"
  Status: Manuscript ready for submission
- "Geo-distributed Deep Learning Using Feature Extraction on Big Data"
  Conference: IEEE IC2E, 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"
  Status: Manuscript in preparation
- **Poster** presented on "PCAAnalytics: Analyzing Real Time Data Using Principal 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
2016 Dean's List Award, BUET
2011 Cambridge Award for World Highest in the subject **Additional Mathematics**
2011 Cambridge Award for Country Highest in the 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 deevelopment competition
organized by BUET Enterpreneurship and Development Club, BUETEDC

2016 Top 20 at HULT Prize at BUET

2016 Participated in **IEEEMadC 2016**, a mobile application contest
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