

# Asif Al Faisal

## Curriculum Vitae

International Maize and Wheat Improvement Center

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Personal website

 Github  LinkedIn  Google Scholar

### Research Interest

Deep Learning Research, AI in Remote Sensing & Life Science, Graph Representation Learning, ExplainableAI (XAI).

### Work Experience

#### Data Analyst

Aug-2019 – present **International Maize and Wheat Improvement Center (CIMMYT), Bangladesh.**

I have been working and worked on multiple research projects where I have responsibilities as follows:

- Data wrangling, processing, statistical analysis, machine learning, and visualization in Big Data Analytics for Climate-Smart Agriculture in South Asia (BigData2CSA) Project.
- Developed a Natural Language Processing (NLP) enabled web-based tool for Asia Regional Resilience to a Changing Climate (ARRCC) Research Programme.
- Transport network optimization for Cereal Systems Initiative for South Asia Mechanization Extension Activity (CSISA-MEA).
- Teaching assistant in Tailor-Made Training (TMT) Plus for Bangladesh: An Orange Knowledge Programme.
- Large scale remote sensing (Sentinel-2) and weather (ERA5) data processing.

#### Engineer (Team Lead)

Jul-2017 – **edotco Bangladesh Co. Ltd.**

Aug-2019 As a team lead my responsibilities were:

Manage a team of four junior engineers and two network transmission engineers, analyze daily network traffic data along with power consumption data and generate statistical summary reports of power to performance ratio to aid in the decision making of the top.

#### Engineer

Aug-2015 – **edotco Bangladesh Co. Ltd.**

Jun-2017 My responsibilities as an Engineer were:

Monitor telecom network of two major mobile network operators (GP & Robi) in Bangladesh, provide countrywide remote network support on a roster basis and development of multiple python subroutine to automate multiple reports.

### Education

2018 **Masters (M.S) in Information Technology.**

IIT, University of Dhaka, Bangladesh

2014 **Bachelor of Science (B.Sc.) in Electrical & Electronic Engineering.**

Khulna University of Engineering and Technology, Bangladesh

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## Publications

### In Conference Proceedings

- 2019 Md. Abdur Rahman, **Asif Al Faisal**, Tayeba Khanam, Mahfida Amjad, and Md Saeed Siddik. Personality detection from text using convolutional neural network. In *2019 1st international conference on advance in science engineering and robotics technology (ICASERT)*, pages 1–6. IEEE, 2019.

### Newsletters

- 2020 **Asif Al Faisal**, Innovative new crowd sourcing tool for gathering crop disease reports developed in South Asia, In *ARRCC programme newsletter*, page 2. Available online: [Click here](#).

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## Research Works & Projects

### Graduate Thesis

- Title ***Personality Detection From Text Using Convolutional Neural Network.***

This was a Natural Language Processing (NLP) task where the goal was to develop a Convolutional Neural Net (CNN) for predicting personality traits (extroversion, agreeableness etc.) from written essays and compare how different activation functions influence prediction results.

### Research Project-I

- Title ***Field Boundary Detection from Airborne Images using HED.***

In this project, a combination of Holistically-Nested Edge Detection (HED) & UNET frameworks have been used to detect field boundary from drone images.

### Research Project-II

- Title ***3D Object Classification from Point Cloud using Graph Neural Net.***

In this project, a combination of Holistically-Nested Edge Detection (HED) & UNET frameworks have been used to detect field boundary from drone images.

### Research Project-III

- Title ***In Silico Prediction of Physicochemical Properties of Chemicals using Graph Neural Net.***

The goal of this research is to develop Graph Neural Net based QSAR/QSPR models for predicting physicochemical properties and environmental fate endpoints of chemicals for regulatory purposes

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## Certifications

- Apr'20 Algorithms for DNA Sequencing. Available online: [Click here](#).  
Mar'20 Deep Learning Specialization Series (5 Courses). Available online: [Click here](#).  
Feb'20 Food Security and Sustainability - Crop Production. Available online: [Click here](#).  
Jun'19 Introduction to SQL. Available online: [Click here](#).  
Jun'17 Data Science Foundations Certified by IBM. Available online: [Click here](#).

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## Skills & Expertise

Programming Languages	Python, R, JavaScript, SQL
Scientific Libraries	PyTorch, PyTorch Geometric, Scikit-learn, NetworkX
Visualization & Dashboard	Plotly, Seaborn, Dash, Streamlit
Others	Google Earth Engine, QGIS, Microsoft Office, Heroku

## English Language Proficiency

### IELTS Academic

Overall: **7.0** Listening: 7.0, Reading: 8.5, Writing: 6.5, Speaking: 6.5

## Teaching Assistantship

### Tailor-Made Training (TMT) Plus: An Orange Knowledge Programme

2021 **Introduction to Scientific Programming.**

2021 **Geospatial Data Analysis & Spatiotemporal Machine Learning with Python.**

## Awards & Acknowledgements

- District Runner-up in National Science Fair for building a Low-Cost Microscope in 2008.
- Divisional Champion in 3rd Bangladesh Math Olympiad in 2005.
- Hari Sankar Nayak et al. "Rice yield gaps and nitrogen-use efficiency in the Northwestern Indo-Gangetic Plains of India: Evidence based insights from heterogeneous farmers' practices" *Field Crops Res.*, 275 (2022), Article 108328. Available online: [Click here](#). (Acknowledgment)

## Referees

### Dr. Timothy J. Krupnik

*Country Representative for Research and Partnerships*

CIMMYT / CGIAR

Gulshan-2, Dhaka, Bangladesh

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### Dr. Zia Ahmed

*Research Associate Professor (Data & Visualization Scientist),*

*Research and Education in Energy, Environment and Water (RENEW)*

University at Buffalo, NY, USA

✉ [zahmed2@buffalo.edu](mailto:zahmed2@buffalo.edu)

### Dr. Urs Schulthess

*Senior Scientist (Remote Sensing)*

CIMMYT-China at Henan Agricultural University

Zhengdong New District, Zhengzhou-450046, PR China

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### Md. Saeed Siddik

*Assistant Professor*

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