

Shagoto Rahman

shresthokucse17@gmail.com, shagoto1710@cseku.ac.bd

[Google Scholar](#)

Computer Science and Engineering Discipline,
Khulna University.
Khulna-9208, Bangladesh.

18/2 Tootpara Eastlink Road
Khulna 9100, Bangladesh.

EDUCATION

2017 - 2022 Khulna University Khulna, Bangladesh.
B.Sc. in Computer Science and Engineering CGPA: **3.72 out of 4.0** Class Position: **4th**
Dissertation: "Smartphone-based Skin-cancer detection using Image Processing and Support Vector Machine."
Thesis Supervisor: Dr. Kamrul Hasan Talukder.
GRE Score: 315 (Quant: 164, Verbal: 151, AWA- 4.0) TOEFL Score: 108 (R: 26, L: 28, S: 26, W: 28)

RESEARCH INTERESTS

- Machine Learning
- Computer Vision
- Artificial Intelligence
- Natural Language Processing
- Deep Learning
- Data Science

PUBLICATIONS

S. Rahman, M. Raihan, S. K. Mithila, "Smartphone-based Skin Cancer Detection using Image Processing and Convolutional Neural Network ", *12th INTERNATIONAL CONFERENCE ON COMPUTING, COMMUNICATION AND NETWORKING TECHNOLOGIES (ICCCNT)*, Kharagpur, India, 2021. Available: 10.1109/icccnt51525.2021.9579966

S. Rahman, S. Mithila, A. Akther and K. Alam, "An Empirical Study of Machine Learning-based Bangla News Classification Methods", *12th INTERNATIONAL CONFERENCE ON COMPUTING, COMMUNICATION AND NETWORKING TECHNOLOGIES (ICCCNT)*, Kharagpur, India, 2021. Available: 10.1109/icccnt51525.2021.9579655

S. Rahman, K.H. Talukder, S. K. Mithila, "An Empirical Study to Detect Cyberbullying with TF-IDF and Machine Learning Algorithms", *International Conference on Electronics, Communications, and Information Technology (ICECIT)*, Khulna, Bangladesh, 2021. Available: 10.1109/ICECIT54077.2021.9641251

S. Rahman et al., "Efficient Machine Learning Approaches to Detect Fake News of Covid-19", *Machine Intelligence and Data Science Applications*, pp. 513-525, 2022. Available: https://doi.org/10.1007/978-981-19-2347-0_40

M. Raihan, A. K. Bairagi, **S. Rahman**, "A Machine Learning Based Study to Predict Depression with Monitoring Actigraph Watch Data", *12th INTERNATIONAL CONFERENCE ON COMPUTING, COMMUNICATION AND NETWORKING TECHNOLOGIES (ICCCNT)*, Kharagpur, India, 2021. Available: 10.1109/ICCCNT51525.2021.957961

K. Mumenin et al., "COVID-19 Fake News Detection on Social Media", *International Conference on Computer, Communication, Chemical, Materials and Electronic Engineering (IC4ME2)*, 2021. Available: 10.1109/ic4me253898.2021.9768523

Submitted in Peer Reviewed Journals:

S. Rahman, M. Raihan, S. K. Mithila, “Smartphone-based Tomato Leaf Disease Detection using Image Processing Techniques and Convolutional Neural Network.

S. Rahman, K.H. Talukder, “Smartphone-based Skin-cancer detection using Image Processing and Support Vector Machine.”

RESEARCH EXPERIENCES

- | | |
|-------------------|---|
| 03/2020 - 12/2021 | Undergraduate Research Student
Computer Science and Engineering, Khulna University. Research Advisor: Dr. Kamrul Hasan Talukder.
Project: “Smartphone-based Skin-cancer detection using Image Processing and Support Vector Machine.” (Undergraduate Thesis). |
| 03/2021 - 08/2021 | DGTED Lab, Khulna University.
Research Advisor: Dr. Kazi Masudul Alam.
Project: “An Empirical Study of Machine Learning-based Bangla News Classification Methods.” |
| 03/2021 - 08/2021 | Khulna University.
Research Advisor: Dr. Kamrul Hasan Talukder.
Project: “An Empirical Study to Detect Cyberbullying with TF-IDF and Machine Learning Algorithms.” |
| 05/2021 - 11/2021 | North Western University, Khulna.
Project: “Efficient Machine Learning Approaches to Detect Fake News of Covid-19.” |

SEMINARS, CONFERENCES, AND WORKSHOPS

Attended multiple National and International Seminars, Conferences, and Workshops as:

- International Conference on MACHINE INTELLIGENCE & DATA SCIENCE APPLICATIONS (MIDAS 2021), Venue: Comilla University, Bangladesh, December 26-27, 2021.
- First International Cyber Security Summit 2021. Venue: Khulna University, Bangladesh. October 22, 2021.
- An International Conference on “*Big Data, IoT and Machine Learning (BIM 2021)*”, Venue: Cox’s Bazar, Bangladesh. September 23-25, 2021.
- An International Conference on “*2021 International Conference on Electronics, Communications and Information Technology (ICECIT)*”, Venue: Khulna University, Bangladesh. September 14-16, 2021.
- An International Conference on “*12th INTERNATIONAL CONFERENCE ON COMPUTING, COMMUNICATION AND NETWORKING TECHNOLOGIES (ICCCNT)*”, Venue: IIT Kharagpur, India (Remote). July 6-8, 2021.

- Online Workshop on Smart City and Smart Village, Venue: Khulna University, Bangladesh. February 27, 2021.
- Training on Growing and Understanding your Business with Facebook, Venue: Khulna University, Bangladesh. February 17, 2018.
- Ruby on Rails Workshop, Venue: Khulna University, Bangladesh. August 12, 2017.

HONORS AND AWARDS

- 2021 Best Paper Award (International Conference on MACHINE INTELLIGENCE & DATA SCIENCE APPLICATIONS (MIDAS 2021) December 26-27, 2021.)
- 2021 Bangladesh Hi-Tech Park (ICT Ministry) Startup Incubation Allotment for SkinCancer Detector.
- 2021 Bangladesh Hi-Tech Park (ICT Ministry) Startup Incubation Allotment for ChatBot for blind.
- 2017 – 2021 University Merit Scholarship: Class Position and Highest Academic Credentials (Undergraduate Program).
- 2017 – 2021 Board Scholarship on Higher Secondary Certificate Examination.
- 2014 – 2016 Board Scholarship on Secondary School Certificate Examination.
- 2012 – 2014 Board Scholarship on Junior School Certificate Examination.
- 2012 Prothom Alo Internet Genius Champion.
- 2009 Divisional Math Olympiad 1st Runner up.
- 2008 Divisional Math Olympiad 1st Runner up.

ADDITIONAL TRAININGS

Around 30 courses on Coursera are done. Some of them are:

- Machine Learning for All, Offered by the **University of London**, Instructor: Prof Marco Gillies (Professor, Computing Department, Goldsmiths, University of London).
- Python Data Analysis, Offered by **Rice University**, Instructors: Scott Rixner (Professor, Computer Science, Rice University) & Joe Warren (Professor, Computer Science, Rice University).
- Basic Data Processing and Visualization, Offered by the **University of California San Diego**, Instructors: Julian McAuley (Assistant Professor, Computer Science, University of California San Diego) & Ilkay Altintas (Chief Data Science Officer, University of California San Diego).
- Machine Learning Foundations: A Case Study Approach, Offered by the **University of Washington**, Instructors: Emily Fox (Amazon Professor of Machine Learning, University of Washington) & Carlos Guestrin (Professor, Computer Science, Stanford University).
- Crash Course on Python, Offered by **Google**, Instructor: Google Career Certificates.
- Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning, Offered by **DeepLearning.AI**, Instructor: Laurence Moroney (Lead AI Advocate, Google).
- Neural Networks and Deep Learning, Offered by **DeepLearning.AI**, Instructor: Andrew Ng (Instructor Founder, DeepLearning.AI & Co-founder, Coursera).

- Applied Plotting, Charting & Data Representation in Python, Offered by the **University of Michigan**, Instructor: Christopher Brooks (Assistant Professor, School of Information, University of Michigan).
- Machine Learning with Python, Offered by **IBM**, Instructors: SAEED AGHABOZORGI (Ph.D., Sr. Data Scientist, IBM) & Joseph Santarcangelo (Ph.D., Data Scientist at IBM).
- Natural Language Processing in TensorFlow, Offered by **DeepLearning.AI**, Instructors: Laurence Moroney (Lead AI Advocate, Google).
- Introduction to Data Science in Python, Offered by the **University of Michigan**, Instructor: Christopher Brooks (Assistant Professor, School of Information, University of Michigan).
- HTML, CSS, and Javascript for Web Developers, Offered by **Johns Hopkins University**, Instructor: Yaakov Chaikin (Adjunct Professor, Graduate Computer Science, Johns Hopkins University).
- Speak English Professionally: In Person, Online & On the Phone, Offered by **Georgia Institute of Technology**, Instructor: Amalia B. Stephens (Lecturer, Georgia Tech Language Institute).

SKILLS AND TECHNIQUES

Programming:

- | | | |
|------------|------------------|-----------------|
| ▪ C | ▪ PHP/MySQL | ▪ Visual Studio |
| ▪ C++ | ▪ Python | ▪ Unreal Engine |
| ▪ C# | ▪ MATLAB | ▪ Unity Engine |
| ▪ Assembly | ▪ JavaScript | ▪ React |
| ▪ Java | ▪ Android Studio | |

Machine Learning:

- | | |
|--------------------------------|----------------------------------|
| ▪ Supervised Machine Learning. | ▪ Unsupervised Machine Learning. |
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Deep Learning:

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| ▪ CNN | ▪ RNN, LSTM, BiLSTM |
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Data Science:

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| ▪ Data Cleaning | ▪ Data Mapping |
| ▪ Data Manipulation | ▪ Pattern Recognition |

Natural Language Processing:

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| ▪ TF-IDF | ▪ Textual Recognition | ▪ Word2Vec |
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Computer Vision:

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| ▪ Object Detection | ▪ TensorFlow | ▪ OpenCV |
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Web Programming:

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| ▪ PHP | ▪ SQL Database | ▪ React |
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Game Development:

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| ▪ Unity 3D | ▪ Unreal Engine |
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PROJECTS

- Android-based skin cancer detector using Image Processing and Machine Learning.
- Android-based skin cancer detector using Image Processing and Convolutional Neural Network.
- Android-based Tomato Leaf Disease detector using Image Processing and Machine Learning.
- Cyberbullying Detector.
- Covid-19-based fake news detector.
- Bangla article classifier.
- Bangla sentiment analyzer.
- Bangla news Similarity and Searching tool for Disabled people.
- Bangla news summarizer for Disabled people.
- Bangla intelligent ChatBot.
- Bangla voice assistant.
- Military Simulator 3D using Unity Engine.
- 3rd Person Zombie Shooter 3D using Unreal Engine.
- Car Racing Game on Khulna Map.
- Computer Graphics (Object Rotation, Translation, Mirror, and Scaling)
- Face Recognition.
- Khulna University Hall and Housing Management.
- Railway management Web Program.
- Railway management Visual Studio version.
- Sugondha Diagnostic Official website.
- Drug Prediction using Binary tree.
- Parser and Lexical Analyzer for compiling.
- Numerical Methods analyzer.
- Restaurant Billing System.
- Scientific Calculator.

TEACHING EXPERIENCES

2018 – 2021 Tutoring: Higher Secondary Math, Biology and Physics.

2017 – 2019 Prothom Alo Math Olympiad camp.

INTERNSHIP EXPERIENCES

07/2020 - 12/2020 Software Engineering Mentorship Program Intern (Online), Durbin Labs LTD, Dhaka, Bangladesh.

01/2021 - 06/2021 Research Intern (Online), Next Solution Lab, Dhaka, Bangladesh.

REFERENCES

Dr. Kamrul Hasan Talukder
Dean & Professor
Science, Engineering and Technology School
Computer Science and Engineering Discipline
Khulna University, Khulna-9208, Bangladesh.
Email: khtalukder@cse.ku.ac.bd
Mobile: +880-1925-687763

Dr. Kazi Masudul Alam
Professor
Computer Science and Engineering Discipline
Khulna University, Khulna-9208, Bangladesh.
Email: kazi@cseku.ac.bd
Mobile: +880-1920-376950

Dr. Anisur Rahman
Professor
Computer Science and Engineering Discipline
Khulna University, Khulna-9208, Bangladesh.
Email: anis@cseku.ac.bd
Phone: +880-41-720-171