

Sheikh Shah Mohammad Motiur Rahman

Research Enthusiastic - Computer Vision - Information Security - Data Science



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25 July 1992

Work Experience

Researcher PhD Student, THE FEMTO-ST - SCIENCES & TECHNOLOGIES, DISC - IUTBM **October 2021 – August 2024**

- UFC (Belfort IUT-BM) 19 avenue du Maréchal Juin - BP 527 90016 BELFORT Cedex, France.

- Electron Microscopy Image Denoising and Restoration using Deep Learning - Computer Vision

Internship (Research), THE FEMTO-ST - SCIENCES & TECHNOLOGIES, DISC - IUTBM - UFC **March 2021 – August 2021**

(Belfort IUT-BM) 19 avenue du Maréchal Juin - BP 527 90016 BELFORT Cedex, France.

- Automatic classification of patients after myocardial infarction and myocarditis based on clinical data.

Lecturer (Senior Scale), DAFFODIL INTERNATIONAL UNIVERSITY, 4/2, Daffodil Tower, Sobhanbag, Mirpur Rd, Dhaka 1207, Bangladesh. **September 2019 – August 2020**

- lecture planning, preparation and research
- contact and teaching time with students
- checking and assessing students' work
- encouraging personal development via tutorial or pastoral work
- invigilating examinations
- attending staff meetings

- writing research proposals, papers and other publications
- reading academic journals
- supervising B.Sc students
- attending and speaking at conferences and seminars
- preparing bids for funding for departmental research projects

Lecturer, DAFFODIL INTERNATIONAL UNIVERSITY, 4/2, Daffodil Tower, Sobhanbag, Mirpur Rd, Dhaka 1207, Bangladesh. **September 2017 – August 2019**

- lecture planning, preparation and research
- contact and teaching time with students
- checking and assessing students' work
- encouraging personal development via tutorial or pastoral work
- invigilating examinations
- attending staff meetings
- writing research proposals, papers and other publications
- reading academic journals
- supervising B.Sc students
- attending and speaking at conferences and seminars

Project Director, NANOTECH SOLUTION AND CONSULTANCY LTD, Level-9, Software Technology, Janata Tower, Park, 49, Dhaka 1215, Bangladesh. **June 2017 – August 2017**

- Develop Web and Mobile Application
- Manage client communication
- Transforming clients requirements to technical requirements
- Implement SCRUM (Agile based Software Development Methodology) during project development

Sr. Software Engineer, AIMTECH SOLUTIONS, **September 2016 – Ongoing**
AmTech Solutions 1742 2nd Ave 702 New York, NY
10128, USA.

- Develop Web Application
- Develop REST API
- Develop Hybrid Mobile Application
- Manage client communication
- Transforming clients requirements to technical requirements
- Deployment the applications from scratch to live server
- Implement SCRUM (Agile based Software Development Methodology) during project development

Software Engineer and Technical Team Lead, **September 2015 – May 2017**
TEKNOPOLE, House 88, Road 17/a, Block E, Banani, Dhaka 1213, Bangladesh.

- Develop Web Application
- Develop REST API
- Develop Hybrid Mobile Application
- Manage client communication
- Transforming clients requirements to technical requirements
- Deployment the applications from scratch to live server
- Implement SCRUM (Agile based Software Development Methodology) during project development

Software Engineer and Mobile Application Developer (Part Time - Internship), **November 2014 – July 2015**
RUPAM IT LIMITED, 348/A, Shaheed Tajuddin Ahmed Avenue, Dhaka 1208, Bangladesh.

- Develop Web Application
- Develop REST API
- Develop Hybrid Mobile Application

Education

University Bourgogne Franche-Comté, Besançon, France, PhD, **2021 – 2024**
Microscopy image denoising and restoration, Computer Vision.
Ongoing

University Bourgogne Franche-Comté, Besançon, France, Master IOT (M.Phil equivalent), Internet of Things, Embedded computing system. **2020 – 2021**
CGPA: 14.192 (out of 20)

Jahangirnagar University, Dhaka, Bangladesh, Master of Science, Computer Science and Engineering. **2017 – 2018**
CGPA: 3.70 (out of 4:00)

Daffodil International University, Dhaka, Bangladesh, Bachelor of Science, Software Engineering. **2012 – 2016**
CGPA: 3.66 (out of 4:00)

Thesis

Title: *Automatic classification of patients after myocardial infarction and myocarditis based on clinical data*

Supervisors: Raphael Couturier, PhD [Full Professor]

Description: This is master IoT (M.Phil) thesis to automatic classification of patients based on clinical data. (In review)

Title: *StackDroid: Evaluation of a Multi-level Approach for Detecting the Malware on Android Using Stacked Generalization*

Supervisors: Sanjit Kumar Saha, PhD [Associate Professor]

Description: Attackers or cyber criminals are getting encouraged to develop android malware because of the rapidly growing rate of android users. To detect android malware, researchers and security specialist have been started to contribute on android malware analysis and detection related tasks using machine learning algorithms. In this paper, Stacked Generalization has been used to minimize the error rate and a multi-level architecture based approach named StackDroid has been presented and evaluated. Published at http://dx.doi.org/10.1007/978-981-13-9181-1_53

Title: *OSCRUM: A Modified Scrum for Open Source Software Development*

Supervisors: Shikha Anirban, PhD [Assistant Professor]

Description: This paper proposes a new model, OScrum by modifying the scrum to make it applicable for OSSD. The proposed model has been constructed after analyzing the key metrics, pillars, and values of Scrum and OSSD. The model has been evaluated through comparing implementation process and working procedure of OSSD. The result shows that the implementation process of OSCRUM has a very close relationship with the process of OSSD and therefore, it fits well in such software development. Published at <https://doi.org/10.5013/IJSSST.a.19.03.20>

Memberships

IEEE Graduate Student, IEEE.	August 2019 – Present
IEEE Computer Society, IEEE.	August 2019 – Present
IEEE Signal Processing Society, IEEE.	October 2022 – Present
IEEE Young Professionals, IEEE.	September 2021 – Present

Skills & Abilities

Soft Skills: COMMUNICATION, COLLABORATION, PROJECT MANAGEMENT, LEADERSHIP, TEAMWORKS, CREATIVE THINKING, CRITICAL THINKING, CURIOSITY, COLLABORATION, BUSINESS KNOWLEDGE, PROBLEM-SOLVING

Hard Skills: DATA ANALYSIS, DATA VISUALIZATION, MACHINE LEARNING, DEEP LEARNING, DATA CLEANING AND PREPARATION, IMAGE PROCESSING, REST API, PREDICTIVE MODELING, MODEL DEPLOYMENT AND PRODUCTION, STATISTICAL ANALYSIS

Technical Skills: PYTHON, PHP, SCIKIT-LEARN, PANDAS, NUMPY, OPENCV, FLASK, SK-IMAGE, NOSQL, SQL AND SO ON

Technology: DIGITALOCEAN - CLOUD SERVER, WEB SERVER MANAGEMENT, LINUX

Software and tools: LATEX, MS WORD, MS EXCEL, VS CODE, SUBLIME TEXT, ATOM AND SO ON

Selected Industrial and Research Projects

1. **Title:** *Android Malware Detection*

Date: : 02 December 2017

Description: Malware is malicious software that can sneak onto your phone. Written with the intent to cause harm, malware includes computer worms, Trojans, ransomware, and spyware. Malware is known to perform repeated tasks that take up a lot of resources

on your phone. The goal is to identify pattern, detect and prevent android malware using ML, EL, TL, RL and DL etc.

No. of publications: : 08

2. Title: *Natural Language Processing*

Date: : 01 March 2018

Description: Natural Language processing for identifying the fake news, sentiment analysis and human depression analysis.

No. of publications: : 05

3. Title: *Phishing URLs Detection*

Date: : 05 August 2018

Description: A phishing website tries to steal someones account password or other confidential information by tricking you into believing they're on a legitimate website. You could even land on a phishing site by mistyping a URL (web address). The goal is to identify pattern, detect and prevent phishing URLs using ML, EL, TL, RL and DL etc.

No. of publications: : 03

4. Title: *Blockchain Based Solutions*

Date: : 15 June 2018

Description: Propose a Blockchain-Based Platform to Share the Datasets for data scientists or researchers by ensuring Data Integrity.

No. of publications: : 01

5. Title: *Software Defect Prediction*

Date: : 15 May 2019

Description: Software Defect is some kind of error, flaw or some kind of mistake from the development team which prevent the software from the smooth working. It directly affect software quality, software quality is some thing how smooth and reliable your software is. Smoothness and reliability is how less defects your software have. The goal of this project is to detect and prevent software defects using ML, EL, TL, RL and DL etc.

No. of publications: : 02

6. Title: *DAAK*

Date: : 15 December 2014

Description: To engage the real time people surrounding a victim if she faced any sexual harassment or any other kinds of problems. DAAK ("Call" in english) was a solution of mobile platform sothat user can initiate an emergency alarm to surrounded users of DAAK including the women safety departments and organization by just pressing one button.

Achievement: National award - Bangladesh Government

7. Title: *Employee tracking and order management system*

Date: : 01 February 2016

Description: It's designed for specially order management of one renowned group of company in bangladesh but behind the application there was tracking of the employee within the office time and the condition was if field workers don't visit to the vendor then they can not place a order of that vendor. Sothat, field employees can not make the order by phone call from their home.

Achievement: Employee of the company because of securing big budget project for the company

8. Title: *Digital Bangladesh*

Date: : 01 February 2017

Description: This application was prepared by targeting the tourist place in Bangladesh including the tourists secure trajectories and the safety ensuring information as well as the medical information nearby the tourists.

Achievement: Best project initiative for the company

9. Title: *App builder*

Date: : 01 December 2016

Description: To generate an mobile native application (android and iOS both) from the web without having a any technical knowledge (with drag and drop).

Complexity: Preparing a shell script to build the android and iOS application from the cloud server.

Awards

- Incoming mobility grant UBFC International Masters - 2020, UBFC - France
- The National Hackathon 2014 Champion, Team Rupam IT LTD, Organised by: Ministry of Telecommunication and Information Technology, Dhaka, Bangladesh
- Junior General Scholarship - 2005, Nasirnagar Ashutush Pilot High School, Brahmanbaria, Bangladesh
- Primary Talentpool Scholarship - 2002, Nasirnagar Model Govt. Primary School, Brahmanbaria, Bangladesh

Additional Information

ResearcherID:	N-5186-2018
Scopus Author:	A57202087629
Google Scholar:	7xRcCqwAAAAJ
ORCID ID:	0000-0001-5278-5186
Github:	github.com/motiurinfo
Personal Web:	motiur.info
LinkedIn:	www.linkedin.com/in/motiurion

Languages

Bengali: Native Speaker

English: Intermediate

French: Basic

Basic words and phrases only

Publications

- 1.: Abu Bakkar Siddikk, Rifat Jahan Lia, Md. Fahim Muntasir, **Sheikh Shah Mohammad Motiur Rahman**, Md. Shohel Arman, and Mahmuda Rawnak Jahan, **FakeTouch: Machine Learning Based Framework for Detecting Fake News**, Big Data Intelligence for Smart Applications, Studies in Computational Intelligence (2022). DOI: 10.1007/978-3-030-87954-9_15
- 2.: Rifat Jahan Lia, Abu Bakkar Siddikk, Md. Fahim Muntasir, **Sheikh Shah Mohammad Motiur Rahman** and Nusrat Jahan, **Depression Detection from Social Media Using Twitter's Tweet**, Big Data Intelligence for Smart Applications, Studies in Computational Intelligence (2022). DOI: 10.1007/978-3-030-87954-9_9
- 3.: Takia Islam, **Sheikh Shah Mohammad Motiur Rahman** and Md. Ismail Jabiullah, **IFIFDroid: Important Features Identification Framework in Android Malware**

- Detection**, Artificial Intelligence and Blockchain for Future Cybersecurity Applications, Studies in Big Data (2021). DOI: 10.1007/978-3-030-74575-2_8
- 4.: Abu Bakkar Siddikk, Md. Fahim Muntasir, Rifat Jahan Lia, **Sheikh Shah Mohammad Motiur Rahman** , Takia Islam and Mamoun Alazab, **Revisiting the Approaches, Datasets and Evaluation Parameters to Detect Android Malware: A Comparative Study from State-of-Art**, Artificial Intelligence and Blockchain for Future Cybersecurity Applications, Studies in Big Data (2021). DOI: 10.1007/978-3-030-74575-2_7
- 5.: Md. Fahim Muntasir, **Sheikh Shah Mohammad Motiur Rahman** , Nusrat Jahan, Abu Bakkar Siddikk and Takia Islam, **AntiPhishTuner: Multi-level Approaches Focusing on Optimization by Parameters Tuning in Phishing URLs Detection**, Artificial Intelligence and Blockchain for Future Cybersecurity Applications, Studies in Big Data (2021). DOI: 10.1007/978-3-030-74575-2_9
- 6.: **Sheikh Shah Mohammad Motiur Rahman**, Lakshman Gope, Takia Islam and Mamoun Alazab, **IntAnti-Phish: An Intelligent Anti-Phishing Framework using Backpropagation Neural Network** , Machine Intelligence and Big Data Analytics For Cybersecurity Applications (Books Chapter), Studies in Computational Intelligence, (ISSN 1860-949X) (2021) (DOI: 10.1007/978-3-030-57024-8_9)
- 7.: Md. Omar Faruque Khan Russel, **Sheikh Shah Mohammad Motiur Rahman** and Mamoun Alazab, **AndroShow : A Large Scale Investigation to Identify the Pattern of Obfuscated Android Malware** , Machine Intelligence and Big Data Analytics For Cybersecurity Applications (Books Chapter), Studies in Computational Intelligence, (ISSN 1860-949X) (2021) (DOI: 10.1007/978-3-030-57024-8_8)
- 8.: Md. Omar Faruque Khan Russel, **Sheikh Shah Mohammad Motiur Rahman** and Takia Islam, **A Large Scale Investigation to Identify the Pattern of App Component in Obfuscated Android Malwares**, Communications in Computer and Information Science - Springer, (ISSN 1865-0929), (2020) (DOI: 10.1007/978-981-15-6318-8_42).
- 9.: Md. Omar Faruque Khan Russel, **Sheikh Shah Mohammad Motiur Rahman** and Takia Islam, **A Large Scale Investigation to Identify the Pattern of Permissions in Obfuscated Android Malwares**, Springer Nature Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering (LNICST) Series, (ISSN: 1867-8211), (2020) (DOI: 10.1007/978-3-030-52856-0_7).
- 10.: **Sheikh Shah Mohammad Motiur Rahman**, Md. Habibur Rahman, Kaushik Sarker, Khalid Been Md. Badruzzaman Biplob and Takia Islam, **An Investigation and Evaluation of N-Gram, TF-IDF and Ensemble Methods in Sentiment Classification**, Springer Nature Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering (LNICST) Series, (ISSN: 1867-8211), (2020) (DOI: 10.1007/978-3-030-52856-0_31).
- 11.: Takia Islam, D K Tonoy Kumar, **Sheikh Shah Mohammad Motiur Rahman** , Md. Ismail Jabiullah, Mamoun Alazab and A. S. M. Kayes, **Ensuring Data Integrity: Towards A Blockchain Based Platform to Share the Datasets**, Blockchain for Cybersecurity and Privacy: Architectures, Challenges and Applications (Book Chapter), (CRC Taylor & Francis),(2020) (DOI: 10.1201/9780429324932-19)
- 12.: Takia Islam, **Sheikh Shah Mohammad Motiur Rahman**, Md. Aumit Hasan, Abu Sayed Md. Mostafizur Rahaman and Md. Ismail Jabiullah, **Evaluation of N-Gram Based Multi-Layer Approach to Detect Malware in Android** , Procedia Computer Science Journal - Elsevier, (ISSN 1877-0509),(2019) (DOI: 10.1016/j.procs.2020.04.115).
- 13.: **Sheikh Shah Mohammad Motiur Rahman**, Takia Islam and Md. Ismail Jabiullah, **PhishStack: Evaluation of Stacked Generalization in Phishing URLs**

Detection, Procedia Computer Science Journal - Elsevier, (ISSN 1877-0509),(2019) (DOI: 10.1016/j.procs.2020.03.294).

14.: Sheikh Shah Mohammad Motiur Rahman, Fatama Binta Rafiq, Tapushe Rabaya Toma, Syeda Sumbul Hossain and Khalid Been Badruzzaman Biplob, **Performance Assessment of Multiple Machine Learning Classifiers for Detecting the Phishing URLs**, Advances in Intelligent Systems and Computing - Springer, (ISSN 2194-5357),(2019) (DOI: 10.1007/978-981-15-1097-7_25)

15.: Md. Fahimuzzman Sohan , Md. Ismail Jabiullah, **Sheikh Shah Mohammad Motiur Rahman** and S M Hasan Mahmud, **Assessing the Effect of Imbalanced Learning on Cross-project Software Defect Prediction**, INTERNATIONAL CONFERENCE ON COMPUTING, COMMUNICATION AND NETWORKING TECHNOLOGIES (ICCCNT),Kanpur,India, IEEE Digital Xplore, (2019) . (DOI: 10.1109/ICCCNT45670.2019.8944622)

16.: Md. Fahimuzzman Sohan , Md. Alamgir Kabir , Md. Ismail Jabiullah and **Sheikh Shah Mohammad Motiur Rahman**, **Revisiting the Class Imbalance Issue in Software Defect Prediction**, International Conference on Electrical, Computer and Communication Engineering (ECCE),Cox's Bazar, Bangladesh, IEEE Digital Xplore, (2019). (DOI: 10.1109/ECACE.2019.8679382)

17.: Md. Fahimuzzaman Sohan,**Sheikh Shah Mohammad Motiur Rahman**, Md Tahsir Ahmed Munna, Shaikh Muhammad Allayear, Md. Habibur Rahman and Md. Mushfiqur Rahman, **NStackSenti: A Multi-Level Approach Using N-gram with Stacked Generalization for Detecting the Sentiment of Users**, Communications in Computer and Information Science - Springer, (ISSN 1865-0929),(2018) (DOI:10.1007/978-981-15-1718-1_4)

18.: **Sheikh Shah Mohammad Motiur Rahman** and Sanjit Kumar Saha, **StackDroid: Evaluation of A Multi-Level Approach for Detecting the Malware on Android using Stacked Generalization**, Communications in Computer and Information Science - Springer,(ISSN 1865-0929),(2018) (DOI: 10.1007/978-981-13-9181-1_53)

19.: Md. Shohel Rana, **Sheikh Shah Mohammad Motiur Rahman** and Andrew H. Sung, **Evaluation of Tree Based Machine Learning Classifiers for Malware Detection on Android** , Springer prestigious series LNCS/LNAI, (ISSN: 0302-9743), (2018) (DOI: 10.1007/978-3-319-98446-9_35)

20.: **Sheikh Shah Mohammad Motiur Rahman**,Md. Habibur Rahman, Kaushik Sarker, Md. Samadur Rahman, Nazmul Ahsan and M. Mesbahuddin Sarker, **Supervised Ensemble Machine Learning Aided Performance Evaluation of Sentiment Classification**,Journal of Physics: Conference Series (JPCS), (ISSN: 1742-6588), (2018) (DOI: 10.1088/1742- 6596/1060/1/012036)

21.: **Sheikh Shah Mohammad Motiur Rahman**,Saiful Alam Mollah, Shikha Anirban, Md. Habibur Rahman, Md. Mostafijur Rahman, Md. Maruf Hassan, Md. Hasan Sharif, **OSCRUM: A Modified Scrum for Open Source Software Development**, International Journal of Simulation: Systems, Science & Technology, IJSSST, (ISSN 1473-804x),(2018)(DOI: 10.5013/IJSSST.a.19.03.20)

22.: Md. Mahfuzur Rahman, **Sheikh Shah Mohammad Motiur Rahman**, Shaikh Muhammad Allayear, Md. Mainul Islam, Md. Fazlul Karim Patwary and Md Tahsir Ahmed Munna , **A Sentiment Analysis Based Approach for Understanding the User Satisfaction on Android Application**, Advances in Intelligent Systems and Computing - Springer, (ISSN 2194-5357),(2019) (DOI: 10.1007/978-981-15-1097-7_33).