MS. TAMANNA MOTAHAR

Senior Lecturer & On Leave

Ph.D in Computer Science (Ongoing), University of Utah, USA

M. Eng. , University Of Alberta, Canada

M.Sc. in Electronics and Telecommunication, North South University

B. Sc. in Computer Engineering, American International University , Bangladesh (AIUB)

HSC & SSC, Mymensingh Girls' Cadet College

Office hours:

Sunday/ Tuesday: 10:00 am-1:00 pm

Thursday: 11:00am- 3:00 pm

Email: tamanna.motahar@northsouth.edu

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Research Areas

- Human Computer Interaction (HCI)
- Mobile, Wireless and Web Applications Development
- Embedded Systems and Internet of Things (IoT)
- Modeling and Simulation

Research Interests

Human-Computer Interaction (HCI), Personal Informatics, Computer Supported Cooperative Work (CSCW), Internet of Things (IOT)

Teaching

- CSE 115 Programming Language I
- CSE 115L Programming Language I Lab
- CSE 225 Data Structures and Algorithms
- CSE 225L Data Structures and Algorithms Lab
- CSE 299 Junior Design Course
- CSE 498/EEE 498/ETE 498 Internship/Co-op/Directed Research

Selected Publications

Conference Papers

▪ Nova Ahmed, Tamanna Motahar, Sharmin Kabir ,Munir Hasan, “Supporting Missing Daughters,” HCI across Borders, (CHI 2018) /** Best Poster Award**/, 2018

▪ Nova Ahmed , Tamanna Motahar, “Enabling Undergraduate Female Students in Hands on Learning through Programming Contests,” The European Conference on Education (ECE2018), 2018

▪ Tamanna Motahar, Rummana Rahman , Rafiya Hossain, “A Simulation study on Light Scattering Effect on Waterborne Bacteriophage Virus using Mie Analysis,” IEEE 17th International Conference on Bioinformatics and Bio engineering,(BIBE 2017), 2017

Professional Activity

Founding Faculty Advisor, NSU ACM-W Student Chapter

ADNAN FIROZE

Lecturer & On Leave

MS

MS

in

Computer

in

Journalism,

Science,

Columbia

Columbia

University,

University,

BS in Computer Science and Engineering, North South University, Dhaka, Bangladesh

Office hours:

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Biography

NY,

NY,

USA

USA

I am a Core Faculty Member at North South University, Bangladesh and formerly a Teaching Fellow at the Computer Science Department in Columbia University in the City of New York. I completed my Dual M.S. in computer science and journalism in 2016 with distinction from Columbia. I graduated summa cum laude in B.S. in Computer Science from North South University, Dhaka, Bangladesh in 2012. After that I worked at Computer Vision and Cybernetics Group, Bangladesh (http://www.cvcrbd.org/researchers). My interdisciplinary research works are based on digital image processing, machine learning, fuzzy logic, neural networks and data mining. My previous research works have appeared in numerous prestigious conferences and journals, namely, IEEE's 2012 International Conference on Machine Learning and Cybernetics (ICMLC), ACM's 13th International Conference on Enterprise Information Systems (ICEIS), International Journal of Healthcare Information Systems and Informatics (IJHISI), to mention a few. In 2015, I co-authored a book chapter on hospital surveillance data analysis in Springer's 'Intelligent Information and Database Systems'.
The story of post-2015 can be found in my publication and funding list below my bio.
My present research is based on real time triangulation of mass calamities using NASA's satellite imagery and also perception of visual data by artificial intelligence. A more ambitious research I have undertaken is detecting and classifying violent action in surveillance and cell phone videos.
I was also the recipient of the Genius Hunt Competition held by ACM in 2011 for my work in Bengali speech recognition.
On a different note, I am using DataCamp for independent learners for my Junior Design class in Summer 2017. It is an excellent platform to assign online courses on many CS areas. I highly recommend you check it out if you are a teacher (or a student). Harvard and Princeton are already on board in case you were wondering. They provide their premium content to universities and yours truly availed it and have been getting very good feedback from students.
The easy going happy-go-lucky faculty member (me!) invites your emails and presence at his office hours if you want to talk about research, computer science, political science and of course – Star

Wars.

Research Areas

- Signals and Image Processing
- Artificial Intelligence & Robotics
- Database and Information Systems
- Modeling and Simulation

Research Interests

- Digital Image Processing
- Computer Vision
- Machine Learning
- Visual Data Mining
- Streaming Data
- Fuzzy Logic and Fuzzy Systems
- Artificial Neural Networks and Deep Learning
- Computational Journalism
- Intelligent User Interfaces

Teaching

- CSE 173 Discrete Mathematics
- CSE 215 Programming Language II
- CSE 311 Database Systems
- CSE 311L Database Systems Lab
- CSE 445 Machine Learning
- CSE 465 Pattern Recognition and Neural Network
- CSE 573 Theory of Fuzzy Systems
- EEE 521 Neural and Fuzzy Systems
- EEE 565 Pattern Recognition
- CSE 467 Digital Image Processing
- EEE 660 Computer Vision Systems

Selected Publications

Journals

▪ Adnan Firoze, Tousif Osman, Shahreen Shahjahan Psyche, Tonmoay Deb, Rashedur M Rahman, “A synthetic approach to estimate cognitive aesthetic of framed images and improvements taking human’s psychology into account,” Journal of Information and Telecommunication – Taylor & Francis. V(4,3), 2018

▪ Adnan Firoze, Tonmoay Deb, Rashedur M Rahman, “Deep Learning and Data Balancing Approaches in Mining Hospital Surveillance Data,” Handbook of Research on Emerging Perspectives on Healthcare Information Systems and Informatics, 2018

▪ Adnan Firoze, Rashedur M Rahman, “Critical condition classification of patients from ICCDR, B hospital surveillance data,” International Journal of Advanced Intelligence Paradigms, 2017

▪ Adnan Firoze, M. Shamsul Arifin, Rashedur M. Rahman, “Bangla User Adaptive Word Speech Recognition – Approaches and Comparisons,” International Journal of Fuzzy System Applications (IJFSA), 2013

▪ Adnan Firoze, Rashedur M. Rahman, “Mining ICDDR, B Hospital Surveillance Data and Exhibiting Strategies for Balancing Large Unbalanced Datasets,” International Journal of Healthcare Information Systems and Informatics (IJHISI), 2015

Conference Papers

▪ Adnan Firoze, Aziz Arman, Tonmoay Deb, “Machine Cognition of Violence in Videos using Novel Outlier-Resistant VLAD,” The 17th IEEE International Conference on Machine Learning and Applications (IEEE ICMLA'18), 2018

▪ Adnan Firoze, Tonmoay Deb, “Face Recognition Time Reduction Based on Partitioned Faces without Compromising Accuracy and a Review of state-of-the-art Face Recognition Approaches,” Proceedings of the 2018 International Conference on Image and Graphics Processing (ACM), 2018

▪ Shamsul Arifin, Adnan Firoze, M. Ashraful Amin, Hong Yan, “Dermatological Disease Diagnosis using Color-skin Images,” International Conference on Machine Learning and Cybernetics (ICMLC), 2012

▪ Adnan Firoze, M. Shamsul Arifin, Ryana Quadir, Rashedur M. Rahman, “BANGLA Isolated

Word Speech Recognition," International Conference on Enterprise Information Systems (ICEIS) , 2011

Book Chapters

▪ Adnan Firoze, Shahreen Shahjahan Psyche, Tonmoay Deb, Tousif Osman, Rashedur M Rahman, "Differential Color Harmony: A robust approach for extracting Harmonic Color features and perceive aesthetics in a large dataset," International Conference on Big Data and Cloud Computing (ICBDCC'18). Springer., 2018

▪ Adnan Firoze, Tousif Osman, Shahreen Shahjahan Psyche, Rashedur M Rahman, "Scoring Photographic Rule of Thirds in a Large MIRFLICKR Dataset: A Showdown Between Machine Perception and Human Perception of Image Aesthetics," Springer Lecture Notes in Computer Science book series (LNCS, volume 10751), 2018

▪ Adnan Firoze, Rashedur M Rahman, "Mining ICDDR, B Hospital Surveillance Data Using Locally
Linear Embedding Based SMOTE Algorithm and Multilayer
Perceptron," Lecture Notes in Computer Science (Springer), 2015

Research Projects & Grants

▪ University Research grant for the fiscal year 2016-17, North South University for the research "Can Artificial Intelligence evaluate Beauty?"

▪ Using NASA Satellite Imagery to Triangulate Fires and Other Calamities in Real Time (supported by The Tow Center, Columbia Journalism School)

▪ Research grant from Columbia Journalism School to predict and analyze US Presidential Election candidates from multiple news outlets

▪ Natural Language Processing (NLP) system to recognize real-time bengali utterances (appeared in a conference, a journal and was runner-up at ACM Genius Hunt)

▪ Dermatological Disease Diagnosis using Color Skin Images

▪ BANGLA Isolated Word Speech Recognition

▪ TravelBD – a web based application integrating Google Maps API to promote tourism in Bangladesh

▪ Spoti.SPOT – a novel Spotify search engine

▪ Real time triangulation of mass calamities using NASA's satellite imagery

Professional Activity

▪ Reviewer at Elsevier International and Springer

▪ Contributing Author at The Huffington Post (Profile)

▪ Long-form Author at the award-winning New York based magazine – The Big Roundtable (profile)

▪ Geffen Scholar in Magazine Writing

▪ Best Position Paper – winner at Dhaka+20 Model United Nations