Farzana Islam

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https://scholar.google.com

RESEARCH INTERESTS

Artificial Intelligence, Natural Language Processing, AI for health, Human-Computer Interaction, Data Science, AI ethics

EDUCATION

Bachelor of Science in Computer Science and Engineering May 2012 - Dec 2019
North South University, Dhaka, Bangladesh
Honors: cum laude (CGPA: 3.5/4.0)
Thesis Title: "Bindu" the Fire Fighter Robot- A Human Rescuer Robot BOT with Real time Human Detection ML technique
Relevant Coursework: Machine Learning, Data Mining, Fuzzy Logic, Pattern Recognition, Linear Algebra, Probability and Statistics

EMPLOYMENT

Lab Instructor, Department of ECE, North South University November 2020 - Present
- Teaching Programming Language I and II (C/C++) and Object Oriented Programming Language (JAVA)
- Developing lecture content and Lab Manuals
- Evaluating student performance and conducting exams

IT Officer, Department of IT, North South University August 2020 - Nov 2020
- Involved in Organization's Software Development Process

RESEARCH EXPERIENCES

Design Inclusion Access Lab (DIAL) October 2022 - Present
Research Assistant
- Contributed to the project "My Freedom through Light: Restarting the day after COVID-19 Pandemic" funded by "Google South & Southeast Asia Research Award 2022"
- Qualitative Data Analysis, Participatory Design Workshop and Literature Review
- Conducted Contextual Interviews about CS education with ethics considerations in the Global Souths
- Designing AI ethics framework (AP4SA) for South Asia in the realm of accountability, fairness, transparency, and explainability
- Analyzing Algorithmic Fairness of Large Language models (LLMs) and Data bias

North South University April 2017 - December 2017
Research Assistant
Supervised by: Dr. Nova Ahmed and Dr. Md. Sirajul Islam
- Contributed to improving the Flash Flood warning device, Sonabondhu
- Conducted user study for flood-affected individuals
- Co-authored research papers and reports

PUBLICATIONS

[1] Making ethics at home in Global CS Education: Provoking stories from the Souths. Marisol Wong-Villacres; Cat Kutay; Shaimaa Lazem; Nova Ahmed; Cristina Abad; Cesar Collazos; Shady Elbassuoni; **Farzana Islam**; Deepa Singh; Tasmiah Tahsin Mayeesha; Martin Ujakpamabeifam; Tariq Zaman; Nicola Bidwell. *ACM Journal on Computing and Sustainable Societies, August 2023,* doi: 10.1145/3608113 [View]. [Paper]. **Best Journal Paper Award, Compass'23**

[2] Data mining techniques and fuzzy logic to build a risk prediction system for stroke. **Farzana Islam**; Rashedur M. Rahman. *International Journal of Advanced Intelligence Paradigms, 2021,* doi: 10.1504/IJAIP.2021.10054275 [View]. **In Press**

[3] Development and Testing of a Low-Cost Water Level Sensor and a Mobile Based Real-time Flood Warning System for the Flash Flood Prone North Eastern Part of Bangladesh. Nova Ahmed; Md. Sirajul Islam; Sifat Kalam; **Farzana Islam**; Nabila Chowdhury; Raquebul Salman Hafiz; Nazmus Sadat; Rozana Tabassum; Nazmun Nahar; Maisha Mamtaz; Shoaib Ahmed. *International Journal of Sensors, Wireless Communications and Control 2021; 11(4), pp. 413-427* doi: 10.2174/2210327910999200614000455 [View].

[4] Bengali Fake News Detection. **Farzana Islam**; Mohammad Minhazul Alam; S. M. Shahadat Hossain; Abdul Motaleb; Sabrina Yeasmin; Mehedi Hasan; Rashedur M. Rahman. *2020 IEEE 10th International Conference on Intelligent Systems (IS), Varna, Bulgaria, 2020, pp. 281-287,* doi: 10.1109/IS48319.2020.9199931 [View]. [Paper].

[5] Cooperative deployment of Shonabondhu. Nova Ahmed; Kimia Tuz Zaman; **Farzana Islam**. *AsianHCI '19: Proceedings of Asian CHI Symposium 2019: Emerging HCI Research Collection, May 2019, Pages 128–135,* doi: 10.1145/3309700.3338452 [View].

[6] A fuzzy logic based predictive model for early detection of stroke. **Farzana Islam**. *UbiComp '18: Proceedings of the 2018 ACM International Joint Conference and 2018 International Symposium on Pervasive and Ubiquitous Computing and Wearable Computers, October 2018, Pages 1841–1844,* doi: 10.1145/3267305.3277838 [View]. [Paper].

[7] Potential risk factor analysis and risk prediction system for stroke using fuzzy logic. **Farzana Islam**; Sarah Binta Alam Shoilee; Mithi Shams; Rashedur M. Rahman. *Artificial Intelligence Trends in Intelligent Systems, pp. 262–272. CSOC 2017. Advances in Intelligent Systems and Computing, vol 573. Springer, Cham.* doi: 10.1007/978-3-319-57261-1_26 [View]. [Paper].

AWARD

ACM Grant for UbiComp '18: The 2018 ACM International Joint Conference on Pervasive and Ubiquitous Computing October 2018

ORGANIZER

NeurIPS Meetup in Dhaka, Bangladesh [Website] [Link to event Website] December 2020

REVIEWER

ACM SIGCAS/SIGCHI Conference on Computing and Sustainable Societies (COMPASS '23 Short Papers) [Website] 2023

VOLUNTEER

UbiComp '18: The 2018 ACM International Joint Conference on Pervasive and Ubiquitous Computing, Singapore

ICCIT 2016: International Conference on Computer and Information Technology, Bangladesh

CONFERENCE AND WORKSHOP ATTENDED

Paper Presentation at DIAL HCI Research Symposium: Connecting Young Researchers with Experts 2023, Bangladesh

Making Digital Finance Work for Women 2023, Bangladesh

Paper Presentation at IEEE 10th International Conference on Intelligent Systems, 2020, Bulgaria

ACM SIGCHI Summer School 2019, Bangladesh

ACM SIGCHI Winter School 2019, Bangladesh

Broadening Participation Workshop 2018, Singapore

Poster Presentation at UbiComp 2018, Singapore

Poster presentation at 4th NSysS 2017, Bangladesh

Paper presentation at Computer Science Online Conference 2017

COMPETENCES

Languages Bengali (*native*), English (*working proficiency*)

Techniques Matlab, C/C++, Python, JAVA, Sensors, git, LaTeX, Weka, R, TensorFlow, Pandas, Matplotlib, NumPy, ScikitLearn

Intelligent Computer Systems Machine Learning, Data Mining, Fuzzy Logic, Robotics, Image Processing, Natural Language Processing (NLP), Neural Network