

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**
North South University, Dhaka, Bangladesh
Honors: cum laude
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 Elbas-suoni; **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 Hosain; 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 WORKSHOPS 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 (<i>native</i>), English (<i>working proficiency</i>)	

Techniques Matlab, C/C++, Python, JAVA, Sensors, git, L^AT_EX, 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