KIMIA TUZ ZAMAN

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Summary

A meticulous, energetic, motivated individual, quick to ramp up with any environment, project or team and perform qualitative or quantitative studies, analyzing user behaviors, address specific research questions and design novel user experience for various technical products. Provide value-adding user-facing design solutions spanning from overall design language to specific interaction and interface design solutions. Excellent interpersonal as well as communication skills and enjoys a high-pressure team environment. Significant experience working in team, people of various ages, cultural backgrounds, and socioeconomic status with excellent feedback and performance reviews from peers. Innovative, creative, and willing to contribute ideas and learn new things.

Education

2021- Present — **Doctoral Student** in Computer Science Department
North Dakota State University, Fargo-ND, US

2019 — **Bachelor of Science** in Computer Science and Engineering
North South University, Dhaka, Bangladesh

Technical Skills

- **Software:** MS Office, Adobe Illustrator, Adobe InDesign, Adobe XD.
- **Functional Skills:** System Architecture Design, Effective Qualitative Research Design, Object-Oriented Programming, Front- End Design, Wireframe Design
- **Programming Skills:** Java, C, C++, HTML, CSS
- **Hardware Skills:** Arduino, Raspberry Pi, Digital Circuits

Professional Experience

2021 (January- July) — **Doctoral Graduate Research Assistant**
Computer Science Department
Advisor: *Dr Juan Li*
North Dakota State University, Fargo-ND, US

2021 (January- July) — **Research Scientist**
Project: Alor Akash- Intersection of Gender and Technology in Bangladesh *funded by Bill and Melinda Gates Foundation*
Project Lead and Research Supervisor: *Dr Nova Ahmed*
North South University, Dhaka, Bangladesh

2020 (January- June) — **Research Assistant** (Contractual)
Project: Digital RMG Factory Mapping in Bangladesh (DRFM-B)
BRAC University, Dhaka, Bangladesh

Volunteering Experience

2019	**Executive**, Educational Activities Committee- IEEE Bangladesh Section
2017- 2018	**Chair**, IEEE NSU Student Branch
2018	**Event Coordinator**, Student Activities Committee - IEEE Bangladesh Section
2016- 2017	**Founding Chair**, Women In Engineering Affinity Group, IEEE NSU Student Branch
2017	**Graphic Designer**, Student Activities Committee - IEEE Bangladesh Section
2015 - 2016	**Vice President** , Viqarunnisa Noon Earth Club
2014 - 2015	**Vice President** , Viqarunnisa Noon English Language Club

Awards And Achievements

- **Presented at ACM Student Research Contest** in Grace Hopper Celebration 2019, Orlando, FL- USA; Link: http://bit.ly/2l4ppgz
- **Travel Grant Recipient** in IEEE TENCON-2019
- **Bangladesh Section's Travel Grant Recipient** in IEEE R10 SYWL Congress 2018
- **Best Student Volunteer Award 2017** (Honorable Mention), IEEE Bangladesh Section
- **2nd Runners Up in 'Low Cost Robot Design Challenge**' organized by the IEEE NSU Student Branch, Robotics & Automation Society
- **Best Executive 2016**, Viqarunnisa Noon Earth Club.
- **Best Executive 2014**, Viqarunnisa Noon English Language Club.

Active Membership

- IEEE
- IEEE Women in Engineering
- IEEE Computer Society
- ACM
- ACM SIGCHI
- ACM-W

Personal Skills

- Well versed with the principles and procedures of planning and management
- Efficient at managing the teams and liaising relations with external associates
- Outspoken, excellent in communication and public speaking
- Highly creative and skilled at experimenting with innovative ideas

Publications
Journal

- Nova Ahmed et al., **"Social Distancing Challenges for Marginal Communities during COVID-19 Pandemic in Bangladesh"**. Journal of Biomedical Analytics Vol. 3, No. 2 (2020), pp. 5-14. doi:10.30577/jba.v3i2.45. 2020

  Link: https://www.jbiomedanalytics.org/index.php/biomed/article/view/45/21

Abstract- This study presents the challenges of marginal communities in maintaining social distances during the COVID-19 pandemic. We focused on garment worker communities in Bangladesh. The current living conditions put the community at high risk due to the contagious nature of COVID-19. The study involved 55 garment workers (32 female) living in three different regions-Ashulia, Gazipur, and Mirpur of Bangladesh. Through a qualitative research method, three critical aspects were studied. First, the inability to maintain social distancing in the community living in close proximity. Second, there is a lack of concern about healthcare among the community and, finally, the absence of preparation for crisis management. The research work proposes policy level intervention for better healthcare in the light of the pandemic that can be helpful in the coming days.

Conference Proceedings

- Maryam Mustafa et al., **"Religion and Women's Intimate Health: Towards an Inclusive Approach to Healthcare"**, 2021 ACM Conference on Human Factors in Computing Systems (CHI'21), Online Virtual Conference (originally Yokohama, Japan), 2021.

  Link: https://dl.acm.org/doi/10.1145/3411764.3445605

Abstract- We present findings from a three country study exploring the intersection between female intimate health and religious beliefs. Through a qualitative study with Muslim female populations in Pakistan, Bangladesh and Malaysia, three different Muslim majority contexts, we examine the deep impact Islamic beliefs have on female intimate health and well-being. Our study investigates the perceptions, attitudes and behaviors of Muslim women to their own intimate and sexual bodies through their experiences of menarche, marriage and reproduction and menopause. The intersection of religion and female sexual bodies and health is a neglected area within HCI and we highlight how inextricably specific Islamic values are linked with women's reproductive health in Muslim communities. We further discuss the opportunities and challenges of designing technologies for religious, non-secular beliefs and values with the aim to improve intimate health practices amongst Muslim women and to broaden the scope of health design within HCI.

- Kimia Tuz Zaman et al., **"Exploring Challenges and Solution Approaches Regarding Wellbeing of Female Rohingya Community in Bangladesh",** IEEE Region 10 Conference 2019 (TENCON), Kerala, India, 2019.

  Link: https://ieeexplore.ieee.org/document/8929413

Abstract- The contemporary Rohingya crisis has forced more than half a million Rohingya refugees to flee and take shelter in Bangladesh and the worst sufferers of the incident are the women, children, and old aged refugees undoubtedly. They have fled the compunction to protect themselves from going through a long tedious migration to Bangladesh, which also includes pregnant women who have a high risk of giving birth and health safety concerns. These crises get deepened when they have to collect food competing with men, look after their children in the camps, and getting proper sanitation. But until the crisis gets solved permanently, through a qualitative study on around 117 female refugees currently living in the Refugee Camp this paper aims to unfold the mental health condition of the female refugees escaping from Rakhine State. We have proposed a technology solution so that manpower and equipment lacking can be compensated. Our findings are mostly concentrated on designing the mental health solution for the traumatized women who had to encounter their beloved ones being oppressed. We have examined them through the lens of Human-Computer Interaction (HCI) research principle and stepped towards suggesting a technology intervention to enhance their current mental state.

- Kimia Tuz Zaman et al., **"IOT Based Question Paper Delivery Box: A Solution towards Preventing Question Paper Leakage in Public Exams of Bangladesh",** 6th International Conference on Smart Instrumentation, Measurement and Application (ICSIMA), Kualalampur, Malaysia, 2019

  Link: https://ieeexplore.ieee.org/document/9057307

Abstract- A possible low-cost solution to prevent the question paper leakage in public exams of Bangladesh has been illustrated in this paper. A GSM based multi-node security system has been designed for delivering the questions to different centers. However, this system can also serve the purpose of delivering other important or confidential deliveries as well. An Arduino Mega micro-controller has been used to control the hardware devices of the system. IR Proximity Sensor, Light Dependent Resistors and Laser Lights have been used to build the

prototype sensors for the security system of the devices. GSM Module has been used to send notification of any unusual or suspicious activities during the delivery period via SMS using mobile network to the particular authority. The SMS is then forwarded and illustrated in the admin portal built as a webapp. The architecture of the system has been designed to keep costs low. This system aims to ensure the maximum minimization of question paper leakage during the delivery period to the exam centers.

- Nova Ahmed et al., **"Cooperative Deployment of Shonabondhu",** Asian CHI Symposium- CHI2019 Glasgow, UK, 2019
  Link: https://dl.acm.org/doi/10.1145/3309700.3338452

Abstract- Technology intervention can play an important role during natural disasters. Flash flood, a major natural disaster taking place in Bangladesh, can be supported by continuous water level monitoring and notification based system. A low-cost sensor based system to handle flash flood required consideration of policy and local community support at its infancy. Later the system was designed using community inputs and deployed using authority support where the entire team worked with researchers cooperatively to have the ownership of the problem as well as the technology intervention.

- Tanzil Shahria et al., **"Underwater Research and Rescue Robot",** 3rd IEEE International Conference on Electrical, Computer and Communication Technologies- (ICECCT), Kerala, India, 2019
  Link: https://ieeexplore.ieee.org/document/8869287

Abstract- A possible solution to minimize the delay in rescuing the coastal areas' ships accident and useful kit for underwater research has been illustrated in this paper. An underwater research and rescue robot has been designed, tested and analyzed for the coast guards and rescue team to save lives. This robot may also be used in research work since Bangladesh has a very large coastal boarder in the Bay of Bengal. Researchers may find this robot useful while doing their research to utilize the resources covered up beneath the Bay of Bengal. However, the robot can also be used in the personal research work. A raspberry pi is used as the communication and control device in this project. Pi camera has been used to get live video streams from the robot to the user. The raspberry pi is directly connected to a router which is in the same network of the central computer via Ethernet cable. User can send command from the computer to raspberry to navigate the robot and also can get the live video stream from the robot. Navigation is controlled by the Brushless motors via Electronic Speed Control (ESC).

- Hasib Zinair et al., **"Design and Implementation of an IOT based Monitoring System for Inland Vessels using Multiple Sensors Network",** 2nd International Conference on Smart Sensors and Applications- (ICSSA), Kuching, Malaysia, 2018
  Link: https://ieeexplore.ieee.org/document/8535976

Abstract- Multi sensor networks are now widely used in various security and surveillance applications. The paper includes designing and implementing a wireless sensor network with a real time web application for monitoring multiple ships to prevent catastrophic events due to overloading. The idea consists of four main parts: Detection Module, GPS tracker, communication system (NRF24L01+) and software application for web interface.

Poster

- Kimia Tuz Zaman et al., **"Exploring the Health Challenges among the Women of Marginalized Rohingya Community in Bangladesh"**, ACM Student Research Contest at Grace Hopper Celebration, Orlando, USA, 2019.

- Tamanna Motahar et al., **"Towards Designing Mental Health Solution for Female Rohingya Refugees",** Human-Computer Interaction Across Borders (HCIXB- CHI2019), Glasgow, UK, 2019
  Link: www.hcixb.org/chi2019/accepted-papers/

Blog

- Nova Ahmed et al., **"Design Thinking Around Covid-19: Focusing On The Garment Workers Of Bangladesh",** IX Interactions, ACM 2020. *Read Blog*
  Link: https://dl.acm.org/doi/10.1145/3406034