

# Akib Zaman

PHD STUDENT, EECS · MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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## Research Interest

Robotics, Computer Graphics, Machine Learning, Computer Vision

## Education

### Massachusetts Institute of Technology

Cambridge, MA, USA

PH.D.CANDIDATE, ELECTRICAL ENGINEERING AND COMPUTER SCIENCE DEPARTMENT

Date - present

- Advisor: Mina Konaković Luković

### Military Institute of Science and Technology

Dhaka, Bangladesh

B.SC. IN COMPUTER SCIENCE AND ENGINEERING

Jan 2015 - Mar 2021

- CGPA: 3.98/4.00
- Thesis Title: Digitalization of Battlefield Environment and Effect Analysis: Towards Developing an Effective IPB System Using Intelligent Object Detection

## Professional Experience

2021-2023 **Lecturer**, Department of Computer Science and Engineering, United International University, Dhaka, Bangladesh

2022-2023 **Team Director and Advisor**, UIU Mars Rover Team, United International University, Dhaka, Bangladesh

## Selected Publications

### JOURNAL

**Zaman, A.**, Majib, M.S., Tanjim, S.A., Siddique, S.M.A., Islam, S., Aadeeb, M.S., Khan, N.I., Haque, R., Islam, M.R.U., Faisal, M.R.F. and Malik, S., 2022. UVC-PURGE: A novel cost-effective disinfection robot for combating COVID-19 pandemic. *IEEE Access*, 10, pp.37613-37634.

**Zaman, A.**, Majib, M.S., Tanjim, S.A., Siddique, S.M.A., Ashraf, F., Islam, S., Morshed, A.H.M.M., Shahid, S.T., Hasan, I., Samir, O. and Shafquat, S., 2022. Phoenix: Towards designing and developing a human assistant rover. *IEEE Access*, 10, pp.50728-50754

Hossain, B.A., Mukta, M.S.H., Islam, M.A., **Zaman, A.** and Schwitter, R., 2023. Natural Language Based Conceptual Modelling Frameworks: State of the Art and Future Opportunities. *ACM Computing Surveys*.

### CONFERENCE

**Zaman, A.**, Tahsin, A., Rahman, M., Akhter, R., Rahman, H., Mustary, S. and Farid, D.M., 2022, November. Emotion Detection for Children on the Autism Spectrum using BCI and Web Technology. In *2022 IEEE/WIC/ACM International Joint Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT)* (pp. 207-214). IEEE.

**Zaman, A.**, Khan, R.T., Karim, N., Nazrul Islam, M., Uddin, M.S. and Hasan, M.M., 2022. Intelli-helmet: An early prototype of a stress monitoring system for military operations. In *Information Systems and Management Science: Conference Proceedings of 3rd International Conference on Information Systems and Management Science (ISMS) 2020* (pp. 22-32). Springer International Publishing.

Mukta, M.S.H., **Zaman, A.**, Islam, M.A. and Hossain, B.A., 2022, September. Predicting Users' Eat-Out Preference from Big5 Personality Traits. In *Congress on Intelligent Systems* (pp. 511-523). Singapore: Springer Nature Singapore.

Hasan, A.R., **Zaman, A.**, Ghosh, P., Audry, T.T.B., Bhuiyan, F., Amit, A.K. and Mukta, M.S.H., 2022, December. Degrees of Anger Prediction from Speech. In *2022 25th International Conference on Computer and Information Technology (ICCIT)* (pp. 318-323). IEEE.

Noor, A.S., Airin, A., Dawla, R.U., Hasan, A.R., Al Hasan, M., **Zaman, A.** and Farid, D.M., 2022, November. A Novel Method for Imbalanced Data Classification based on Label Reassignment. In TENCON 2022-2022 IEEE Region 10 Conference (TENCON) (pp. 1-6). IEEE.

Airin, A., Dawla, R.U., Noor, A.S., Al Hasan, M., Hasan, A.R., **Zaman, A.** and Farid, D.M., 2022, December. Attention-Based Scene Graph Generation: A Review. In 2022 14th International Conference on Software, Knowledge, Information Management and Applications (SKIMA) (pp. 210-215). IEEE.

## Awards, Fellowships, & Grants

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| 2021 | <b>MIST Medal, Highest CGPA in the Department of Computer Science and Engineering,</b><br>Military Institute of Science and Technology (MIST), Dhaka, Bangladesh<br><b>Seed-Funding Receiver in Portfolio StartUP,</b> Innovation Design and Entrepreneurship<br>Academy (IDEA), ICT Division, Bangladesh<br><b>Team Lead   MIST Mongol Barota   University Rover Challenge(URC) 2021,</b> The Mars<br>Society | \$ 10000 |
| 2020 | <b>Team Lead   Best Robotic System in Application Category   Medical Robotics Challenge</b><br><b>for Contagious Disease,</b> UK Robotics and Autonomous Systems (UK-RAS) Network  | \$ 7000  |
| 2018 | <b>Best Overseas Student Officer   Highest score in Military, Academic, and Professional</b><br><b>Exams, Officers' Commissioning Course CC163,</b> Royal Military Academy Sandhurst (RMAS),<br>Camberley, UK  |          |

## Teaching Experience

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### TEACHING

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|------|---|
| 2023 | <b>CSE 2217/8: Data Structures and Algorithms - II,</b> UIU, Bangladesh, Lecturer (~ 40<br>students), <i>Summer</i><br><b>CSE 1115/6: Object Oriented Programming Language,</b> UIU, Bangladesh, Lecturer (~ 45<br>students), <i>Spring</i><br><b>CSE 1111/2: Structured Programming Language,</b> UIU, Bangladesh, Lecturer (~ 75<br>students), <i>Spring, Summer</i>  |
| 2022 | <b>CSE 2215/6: Data Structures and Algorithms- I,</b> UIU, Bangladesh, Lecturer (~ 35 students),<br><i>Fall</i><br><b>CSE 1111/2: Structured Programming Language,</b> UIU, Bangladesh, Lecturer (~ 90<br>students), <i>Summer, Fall</i><br><b>CSE 3301: Computer Architecture,</b> UIU, Bangladesh, Lecturer (~ 40 students) <i>Spring,</i><br><i>Summer</i><br><b>CSE 2233: Theory of Computation,</b> UIU, Bangladesh, Lecturer (~ 35 students), <i>Spring</i> |
| 2021 | <b>CSE 1111/2: Structured Programming Language,</b> UIU, Bangladesh, Lecturer (~ 90<br>students), <i>Spring</i><br><b>CSE 2233: Theory of Computation,</b> UIU, Bangladesh, Lecturer (~ 90 students), <i>Spring</i><br><b>CSE 429/30: Digital System Design,</b> UIU, Bangladesh, Lecturer (~ 90 students), <i>Spring</i><br><b>CSE 421/2: Computer Graphics,</b> UIU, Bangladesh, Lecturer (~ 25 students), <i>Summer</i>  |

### RESEARCH SUPERVISION

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| 2021-2022 | <b>Prediction of Soil Nutrients using Hyperspectral Satellite August,</b> Undergraduate Thesis<br>Co-Supervision, UIU, Bangladesh  |
| 2022-2023 | <b>Scene Graph Understanding using Attention Mechanism ,</b> Undergraduate Thesis<br>Co-Supervision, UIU, Bangladesh<br><b>Meta-learning on Supervised Machine Learning Datasets,</b> Undergraduate Thesis<br>Co-Supervision, Department of CSE, UIU |

## Outreach & Professional Development ---

### PROFESSIONAL SERVICE AND OUTREACH

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| 2022 | <b>4th International Conference on Machine Intelligence and Signal Processing (MISP 2022),</b><br>Technical Program Committee Member | <i>Bangalore,<br/>India</i> |
| 2021 | <b>International Conference on Information Systems and Management Science (ISMS 2021),</b><br>Reviewer                               | <i>Malta</i>                |

### DEVELOPMENT

**Certified Supply Chain Analyst (CSCA)** under the International Supply Chain Education Alliance (ISCEA), the USA with 97% marks

**Level 5 Diploma in Leadership and Management** from Chartered Management Institute, London, UK; Learner Number: P04552151 (2017)

### PEER REVIEW

IEEE Access

### PROFESSIONAL MEMBERSHIPS

IEEE Student Member

### OTHER ACTIVITIES

Won Several National and College Level Debate (Asian and British Parliamentary) Competition  
Completed a Full Marathon (42.1 Km) and Two Half Marathon (21.1 Km)  
Love to play Table Tennis and Badminton

## References ---

**Mina Konaković Luković** *Cambridge, MA, USA*  
ASSISTANT PROFESSOR, EECS, MIT

**Iman Dehzangi** *Camden, NJ, USA*  
ASSISTANT PROFESSOR, DEPARTMENT OF CS, RUTGERS UNIVERSITY

**Salekul Islam** *Dhaka, Bangladesh*  
PROFESSOR, DEPARTMENT OF CSE, UIU