

Dewan Ziaul Karim

Flat:A3, House: 23/A, Road: 01, PC Culture Housing Society, Adabor, Dhaka - 1207, Bangladesh.
Phone: +8801670206000 | Email: ziaul1891@gmail.com | GitHub: <https://github.com/ziaul1891>
Webpage: <https://ziaul1891.github.io/dewanziaulkarim>

RESEARCH INTERESTS & CAREER OBJECTIVE

My research interest lies in the domain of computer vision and machine learning. My goal is to push the limits of visual recognition systems and solve real-world problems by investigating novel areas in computer vision, including object detection, image segmentation, and deep learning techniques. Hence, I intend to prepare myself as a dedicated researcher and academician in the field of computer vision and machine learning. I also plan to share my knowledge with others so that they can reach their full potential and build a successful career in the global market.

EDUCATION

B.Sc. in Computer Science and Engineering (CSE) 2012 – 2016

Ahsanullah University of Science and Technology, Dhaka, Bangladesh.

CGPA: 3.919/4.00

Higher Secondary Certificate, 12th Grade National Examination 2011

Dhaka Residential Model College, Dhaka, Bangladesh.

GPA: 5.00/5.00

Higher Secondary Certificate, 10th Grade National Examination 2009

Dhaka Residential Model College, Dhaka, Bangladesh.

GPA: 5.00/5.00

TEST SCORES

- **GRE:** Quantitative Reasoning: 163, Verbal Reasoning: 147, Analytical Writing: 3.5
- **IELTS:** Overall: 8 (Listening: 8.5, Reading: 9.0, Writing: 7.5, Speaking: 7.0)

ACHIEVEMENTS

- Secured 1st position in my batch throughout the four years of B.Sc. in CSE (among 150 students).
- Awarded with Dean's list of honor award for achieving more than 3.75 CGPA in the bachelors degree, Ahsanullah University of Science & Technology, Dhaka, Bangladesh, 2016.
- Honorable mention at Ideas for Action awarded by The World Bank, 2019.
- Certificate for Scopus Indexed Publication awarded by Daffodil International University, Dhaka, Bangladesh, 2018.
- Government Scholarship in Secondary School Certificate Examination from Ministry of Education, Dhaka, Bangladesh, 2009.

PUBLICATIONS

1. **Dewan Ziaul Karim**, Tasfia Anika Bushra, Shoaib Ahmed Dipu, Md Humaion Kabir Mehedi, Annajiat Alim Rasel, "A Deep Learning Based Approach for Gastrointestinal Disease Detection with XAI", waiting to be published in Proc. of the 20th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA), 2023.
2. **Dewan Ziaul Karim**, Tasfia Anika Bushra, Muntasir Mahmud Saif, "PestDetector: A Deep Convolutional Neural Network to Detect Jute Pests", in Proc. of the 4th International Conference on Sustainable Technologies for Industry 4.0 (STI), pp. 1-6, 2022.
3. **Dewan Ziaul Karim**, Tasfia Anika Bushra, "Detecting Lung Cancer from Histopathological Images Using Convolution Neural Network", in Proc. of TENCON 2021-2021 IEEE Region 10 Conference (TENCON), pp. 626-631, 2021.
4. Chamak Saha, Somak Saha, **Dewan Ziaul Karim**, "CKD-LSTM: Chronic Kidney Disease Detection using LSTM Integrated with Oversampling Technique", waiting to be published in Proc. of the 26th International Conference on Computer and Information Technology (ICCIT), 2023.

5. Nazifa Mouli, Protiva Das, Munim Bin Muquith, Aurnab Biswas, MD Dilshad kabir Niloy, Md Faisal Ahmed, **Dewan Ziaul Karim**, “Unveiling Employee Job Satisfaction: Harnessing Deep Learning for Sentiment Analysis”, waiting to be published in Proc. of the 26th International Conference on Computer and Information Technology (ICCIT), 2023.
6. Anisur Rahman, Faria Rahman, Tahmidul Labib, Ehteshamul Islam Uschash, Shihaba Jamal Chowdhury Adiba, **Dewan Ziaul Karim**, “Detection of DeepFake videos using Computer Vision and Deep Learning”, waiting to be published in Proc. of the 10th IEEE Asia-Pacific Conference on Computer Science and Data Engineering (CSDE), 2023.
7. Tirthendu Prosad Chakravorty, Mobashra Abeer, Shaiane Prema Baroi, Sristy Roy, **Dewan Ziaul Karim**, “Interpretable Violence Detection Using Separable Convolution and Bidirectional LSTM”, waiting to be published in Proc. of the 10th IEEE Asia-Pacific Conference on Computer Science and Data Engineering (CSDE), 2023.
8. Mohammad Muhibur Rahman, Anushua Ahmed, Mutasim Husain Khan, Mohammad Rakibul Hasan Mahin, Fahmid Bin Kibria, **Dewan Ziaul Karim**, Mohammad Kaykobad, “CNN vs Transformer Variants: Malware Classification Using Binary Malware Images”, waiting to be published in Proc. of the IEEE International Conference on Communication, Networks and Satellite (COMNETSAT), 2023.
9. Tirthendu Prosad Chakravorty, Mobashra Abeer, Shaiane Prema Baroi, Sristy Roy, **Dewan Ziaul Karim**, “Spatial Feature Based Violence Detection Using Convolutional Neural Network”, in Proc. of the IEEE International Conference on Artificial Intelligence in Engineering and Technology (IICAET), pp. 141-145, 2023.
10. Rehanul Ahmed, Md Mahidul Haque, Somak Saha, Chamak Saha, Mayurakshmi Dutta, **Dewan Ziaul Karim**, Moin Mostakim, Annajiat Alim Rasel, “Fresh or Stale: Leveraging Deep Learning to Detect Freshness of Fruits and Vegetables”, in Proc. of the 3rd International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME), pp. 1-6, 2023.
11. Oyshik Ahmed Aadi, Md Meghdad Hossain Akash, Asif Hossain, Fahim Ishraq, Abdullah Al Fahim, **Dewan Ziaul Karim**, “CellIdentifier: Classification of Peripheral Blood Cell Images using Deep Learning”, in Proc. of the 3rd International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME), pp. 1-6, 2023.
12. Mohammad Yasin Arefin, Rawhatur Rabbi, Iffat Fahmida Turna, Zahra Zannat, **Dewan Ziaul Karim**, “Lightweight Custom CNNs Take on Corn Leaf Disease: Deep Learning for Plant Pathology”, in Proc. of the 3rd International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME), pp. 1-6, 2023.
13. Shah Imran, Zarif Sadman, Abidul Islam, **Dewan Ziaul Karim**, “Enhanced Yoga Posture Detection using Deep Learning and Ensemble Modeling”, in Proc. of the 3rd International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME), pp. 1-6, 2023.
14. Dibash Dey, Umme Sabiha Shama, MD Akash, **Dewan Ziaul Karim**, “Automatic Waste Classification System using Deep Learning Techniques”, in Proc. of the 3rd International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME), pp. 1-6, 2023.
15. Md Farhadul Islam, Sarah Zabeen, Fardin Bin Rahman, Md Azharul Islam, Fahmid Bin Kibria, Meem Arafat Manab, **Dewan Ziaul Karim**, Annajiat Alim Rasel, “Exploring Node Classification Uncertainty in Graph Neural Networks”, in Proc. of the ACM Southeast Conference, pp. 186-190, 2023.
16. Md Farhadul Islam, Sarah Zabeen, Fardin Bin Rahman, Md Azharul Islam, Fahmid Bin Kibria, Meem Arafat Manab, **Dewan Ziaul Karim**, Annajiat Alim Rasel, “UnIC-Net: Uncertainty Aware Involution-Convolution Hybrid Network for Two-level Disease Identification”, in Proc. of Southeast-Con, pp. 305-312, 2023.
17. Amit Roy, Riasat Abdullah, Fahim Ahmed, Shahriar Mashfi, Sazid Hayat Khan, **Dewan Ziaul Karim**, “RetNet: Retinal Disease Detection using Convolutional Neural Network”, in Proc. of International Conference on Electrical, Computer and Communication Engineering (ECCE), pp. 1-6, 2023.
18. Muntasir Mahmud Saif, **Dewan Ziaul Karim**, Rafeed Bin Akbar, Mohammed Arman Khan, Tanvir Badsha, Sadman Sakib, “SZR5: A Modern Technique to Detect Potholes using Convolution Neural Network”, in Proc. of the 9th IEEE Asia-Pacific Conference on Computer Science and Data Engineering (CSDE), pp. 1-6, 2022.

19. Shihab Uddin Sikder, Md. Shafiu Muslebeen, **Dewan Ziaul Karim**, Ramkrishna Saha, Tasfia Anika Bushra, "OkkhorNet: A Deep Convolutional Neural Network to Classify Bengali Handwritten Characters", in Proc. of the 9th IEEE Asia-Pacific Conference on Computer Science and Data Engineering (CSDE), pp. 1-6, 2022.
20. Kazi Kamruzzaman Rabbi, Akram Hossain, Pranto Dev, Aninda Sadman, **Dewan Ziaul Karim**, Annajiat Alim Rasel, "KDANet: Handwritten Character Recognition for Bangla Language using Deep Learning", in Proc. of the 25th International Conference on Computer and Information Technology (ICCIT), pp. 651-656, 2022.
21. Mohammad Rakibul Hasan Mahin, Waheed Moonwar, Md. Shamsul Rayhan Chy, Fahim Faisal Raf, Md. Fahim Shahriar, **Dewan Ziaul Karim**, Annajiat Alim Rasel, "Interpretable Disease Classification in Plant Leaves using Deep Convolutional Neural Networks", in Proc. of the 25th International Conference on Computer and Information Technology (ICCIT), pp. 645-650, 2022.
22. Khalid Shifullah, H.M. Rakibullah, Nuzhat Islam, Hasin Raihan, Md. Ashik Iqbal, **Dewan Ziaul Karim**, Annajiat Alim Rasel, "Classification of Hotel Reviews Using Sentiment Analysis and Machine Learning", in Proc. of the 25th International Conference on Computer and Information Technology (ICCIT), pp. 710-715, 2022.
23. Abrar Shahriar Abeed, Asif Atiq, Afra Antara Anjum, Azher Ahmed Efat, **Dewan Ziaul Karim**, "BoMaCNet: A Convolutional Neural Network Model to Detect Bone Marrow Cell Cytology", in Proc. of the 25th International Conference on Computer and Information Technology (ICCIT), pp. 686-691, 2022.
24. Md. Farhadul Islam, Sarah Zabeen, Md. Azharul Islam, Fardin Bin Rahman, Anushua Ahmed, **Dewan Ziaul Karim**, Annajiat Alim Rasel, Meem Arafat Manab, "How Certain are Transformers in Image Classification: Uncertainty Analysis with Monte Carlo Dropout", in Proc. of the 15th International Conference on Machine Vision (ICMV), pp. 158-165, 2022.
25. Takrim Rahman Albi, Md Nakhla Rafi, Tasfia Anika Bushra, **Dewan Ziaul Karim**, 2022, February. "Diabetes Complication Prediction using Deep Learning-Based Analytics", in Proc. of the 2nd International Conference on Advancement in Electrical and Electronic Engineering (ICAEEE), pp. 1-6, 2022.
26. Afridi Ibn Rahman, Subhi Bhuiyan, Ziad Hasan Reza, Jasarat Zaheen, Tasin Al Nahian Khan, **Dewan Ziaul Karim**, 2022, March. "Intracranial Hemorrhage Detection on CT Scan Images using Transfer Learning Approach of Convolutional Neural Network", in Proc. of the 2nd International Conference on Computing Advancements (ICCA), pp. 171-177, 2022.
27. Arpita Dhar, Likhan Biswas, Prima Acharjee, Shemonti Ahmed, Abida Sultana, **Dewan Ziaul Karim**, Mohammad Zavid Parvez, "DFCatcher: A Deep CNN Model to Identify Deepfake Face Images", in Proc. of TENCON 2021-2021 IEEE Region 10 Conference (TENCON), pp. 545-550, 2021.
28. Md. Afif Al Mamun, **Dewan Ziaul Karim**, Subroto Nag Pinku, Tasfia Anika Bushra, "TLNet: A Deep CNN model for Prediction of Tomato Leaf Diseases", in Proc. of the 23rd International Conference of Computer and Information Technology (ICCIT), pp. 1-6, 2020.
29. Md. Al-Amin, **Dewan Ziaul Karim**, Tasfia Anika Bushra, "Prediction of Rice Disease from Leaves using Deep Convolution Neural Network towards a Digital Agricultural System", in Proc. of the 22nd International Conference of Computer and Information Technology (ICCIT), pp. 1-5, 2019.
30. Nafis Neehal, **Dewan Ziaul Karim**, Sejuti Banik, Tasfia Anika, "Runtime Optimization of Identification Event in ECG Based Biometric Authentication", in Proc. of the 2nd International Conference on Electrical, Computer and Communication Engineering (ECCE), pp. 1-5, 2019.
31. Nafis Neehal, **Dewan Ziaul Karim**, Ashraful Islam, "Cloud-POA: A cloud-based map only implementation of PO-MSA on Amazon multi-node EC2 Hadoop Cluster", in Proc. of the 20th International Conference of Computer and Information Technology (ICCIT), pp. 1-6, 2017.

WORK EXPERIENCE

Lecturer (Full Time)

May 2018 – Present

Department of Computer Science and Engineering, Brac University, Dhaka, Bangladesh.

- Courses Taught: Introduction to Computer Science, Digital Logic Design, Data Communications, Database Management Systems, Software Engineering, System Analysis and Design.
- Administrative Responsibilities: Routine coordination, Courses offering, Semester schedule preparation, Exam routine and invigilation schedule preparation.

Coordinator and Trainer - ITEE

February 2021 – Present

Brac University, Dhaka, Bangladesh.

- Topics Taught: Software Components, Hardware Components, Network, Multimedia, Human Interface.
- Administrative Responsibilities: ITEE training schedule preparation, Bill preparation, Organizing Seminars.

Lecturer (Full Time)

September 2016 – April 2018

Department of Computer Science and Engineering,

Daffodil International University, Dhaka, Bangladesh.

- Courses Taught: Microprocessor & Assembly Language, Computer Architecture & Organization, Data Communication, Web Engineering, Social & Professional Issues in Computing, Communication Engineering.

Lecturer (Part Time)

October 2016 – March 2017

Department of Computer Science and Engineering,

Ahsanullah University of Science and Technology, Dhaka, Bangladesh.

- Courses Taught: Computer Fundamentals, Programming Language.

PROJECTS

- **Student Recognizer** (Language: Matlab, Platform: Windows) - An application that detects the student ID number from the photo ID card.
- **Line Follower Robot with Obstacle Avoider** (Language: C) - Created a robot using arduino mega that follows a line while avoiding obstacles.
- **kivabejaben.com** (Platform: Web, Front-End: HTML,CSS, Back-End: PHP, MySQL) - A Website that helps users to find suitable bus routes in Bangladesh.
- **Moviemania.com** (Platform: Web, Front-End: HTML,CSS, Back-End: PHP, MySQL) - A Website to help users finding information of movies.
- **ColorZone** (Language: Java, Platform: Android) - An android drawing application.
- **Fool The Alligator Game** (Platform: Windows, Game Engine: Construct 2) - A windows 2D game.
- **The Hungry Monkey Game** (Platform: Windows, Game Engine: Construct 2) - An interactive 2D game developed for the windows platform.

TRAINING, CONFERENCES AND WORKSHOPS

- Attended “Remote Training Program on ITEE Training of Trainers (TOT)”, arranged by Bangladesh Computer Council (BCC) and AOTS, Dhaka, Bangladesh, 2021.
- Participated as an author in IEEE conferences (e.g., TENCON 2021, ICCIT, STI, CSDE, etc.).
- Attended the workshop on “Skills Development of ICT Engineers on IT Engineers Exam (ITEE) Targeting Japanese Market”, arranged by University Grants Commission (UGC), Dhaka, Bangladesh, 2019.
- Attended training on “Participatory Engaging Teaching (PET)”, arranged by Daffodil International University (DIU), Dhaka, Bangladesh, 2016.
- Completed training on CCNA Routing by American International University, Dhaka, Bangladesh, 2016.

SKILLS

- Programming Languages: C, Java, Python, HTML, CSS, PHP, JavaScript.
- Databases: MySQL, sqlite.
- IDEs: NetBeans, Eclipse, Codeblocks, Proteus, emu8086, Jupyter Notebook, Spyder.

REFERENCES

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| <ul style="list-style-type: none">• Dr. Mohammad Shafiul Alam
Professor
Computer Science & Engineering,
Ahsanullah University of Science & Technology,
Dhaka-1208, Bangladesh.
Contact No: +8801715104101
Email: shafiul.cse@aust.edu | <ul style="list-style-type: none">• Dr. Sadia Hamid Kazi
Associate Professor and Chairperson
Computer Science & Engineering,
Brac University,
Dhaka-1212, Bangladesh.
Contact No: +8801817611334
Email: skazi@bracu.ac.bd |
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