

Adnan Ferdous Ashrafi

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EDUCATIONAL BACKGROUND

University of Calgary

M.Sc. in CS, Department of Computer Science

Calgary, Alberta, Canada

Sep. 2025 - Ongoing

Islamic University of Technology

M.Sc. in CSE, Department of Computer Science and Engineering

Gazipur, Bangladesh

Jan. 2018 - Aug. 2025

Islamic University of Technology

B.Sc. in CSE, Department of Computer Science and Engineering

Gazipur, Bangladesh

Jan. 2011 - Nov. 2014

PROFESSIONAL EXPERIENCE

University of Calgary

Graduate Teaching Assistant, Department of CS

Calgary, Alberta, Canada

Aug. 2025 - Present

Stamford University Bangladesh

Senior Lecturer, Department of CSE

Dhaka, Bangladesh

Dec. 2018 - Aug. 2025

Islamic University of Technology

Adjunct Faculty Member, Department of CSE

Gazipur, Bangladesh

Sep. 2022 - Apr. 2024

Ahsanullah University of Science and Technology

Adjunct Faculty Member, Department of CSE

Dhaka, Bangladesh

Jan. 2018 - June 2018

Finance Division, Ministry of Finance

Trainer, SEIP-BASIS Project (Tranche-3)

Dhaka, Bangladesh

Sep. 2022 - Present

- Trainer of Software Architecture and Design (SDA) course
- Contributor in development of competency standard for SDA
- Content creator, facilitator and assessor

Stamford University Bangladesh

Lecturer, Department of CSE

Dhaka, Bangladesh

Sep. 2015 - Nov. 2018

- Major courses taught: Compilers, Artificial Intelligence and Expert Systems, Structural Programming Language, Object Oriented Programming, Visual and Internet Programming, Data Communications, etc.
- Member of Thesis/Project/Internship Distribution Committee, Routine Committee.
- Active member of Curriculum Committee. Currently working on OBE (outcome-based education) curriculum design and implementation at Stamford University Bangladesh.
- Ex-coordinator of Stamford University Bangladesh Computer Society (SUCS).

XeonBD

Web Developer and System Admin

Dhaka, Bangladesh

Nov. 2014-Aug. 2015

- Designed and developed web solutions for clients with various business and personal requirements.

- Project planning and execution as team lead.
- Built several ERPs in a team, e.g., office management system (OMS), SMS gateway, various e-commerce solutions, etc.

SELECTED PUBLICATIONS

1. Sumiya Arafin, **Adnan Ferdous Ashrafi**, Md. Golam Rabiul Alam and Ashis Talukder, "BFER-Net: Babies Facial Expression Recognition Model using ResNet12 Enabled Few-shot Embedding Adaptation and Convolutional Block Attention Modules," in IEEE Access, doi: 10.1109/ACCESS.2025.3545759.
2. Jahid Hasan Siddiqui, Raihan Uddin Ahmed, **Adnan Ferdous Ashrafi**, and Sumiya Arafin, "Know Your Chemistry Set: Exploring Chemical Laboratory Object Detection Using YOLOv8 and YOLOv9" Accepted at 2024 27th International Conference on Computer and Information Technology (ICCIT).
3. Sayeda Sanzida Ferdous Ruhi, Fokrun Nahar, and **Adnan Ferdous Ashrafi**, "A novel approach towards the classification of Bone Fracture from Musculoskeletal Radiography images using Attention Based Transfer Learning" Accepted at 2024 27th International Conference on Computer and Information Technology (ICCIT), Cox's Bazar, Bangladesh, preprint available at arxiv DOI-arXiv:2410.14833.
4. Ahmed, M.R., **Adnan Ferdous Ashrafi**, Ahmed, R.U. et al. "DoubleU-NetPlus: a novel attention and context-guided dual U-Net with multi-scale residual feature fusion network for semantic segmentation of medical images". Neural Comput & Applic (2023), DOI: 10.1007/s00521-023-08493-1 (**Q1 Journal - IF 6.0 (2022)**)
5. M. R. Ahmed, **Adnan Ferdous Ashrafi**, R. U. Ahmed and T. Ahmed, "MCFFA-Net: Multi-Contextual Feature Fusion and Attention Guided Network for Apple Foliar Disease Classification," 2022 25th International Conference on Computer and Information Technology (ICCIT), Cox's Bazar, Bangladesh, 2022, pp. 757-762, DOI: 10.1109/ICCIT57492.2022.10055790.
6. M. H. Sarkar and **Adnan Ferdous Ashrafi**, "Genetic Sequence compression using Machine Learning and Arithmetic Encoding Decoding Techniques," 2022 25th International Conference on Computer and Information Technology (ICCIT), Cox's Bazar, Bangladesh, 2022, pp. 1038-1043, DOI: 10.1109/ICCIT57492.2022.10055899.
7. Mominul Haque, Sweetey Akter and **Adnan Ferdous Ashrafi**. "SwinMedNet: Leveraging Swin Transformer for Robust Diabetic Retinopathy Classification from the RetinaMNIST2D Dataset", in **ICEEICT-2024**, 6th International Conference on Electrical Engineering and Information & Communication Technology (ICEEICT), DOI: 10.1109/ICEEICT62016.2024.10534544.
8. Ahmed Al Marouf, **Adnan Ferdous Ashrafi**, Tanveer Ahmed and Tarikuzzaman Emon. "A Machine Learning based Approach for Mapping Personality Traits and Perceived Stress Scale of Undergraduate Students", in **IJMECS**, International Journal of Modern Education and Computer Science (IJMECS), Volume: 11, Issue: 8, Pages: 42-47, DOI: 10.5815/ijmeecs.2019.08.05.
9. Ahmed Al Marouf, Rasif Ajwad and **Adnan Ferdous Ashrafi**. "Looking Behind the Mask: A framework for Detecting Character Assassination via Troll Comments on Social media using Psycholinguistic Tools", in **ECCE-19**, 2019 International Conference on Electrical, Computer and Communication Engineering (ECCE), DOI: 10.1109/ECACE.2019.8679154.
10. **Adnan Ferdous Ashrafi**, AK M Iqtidar Newaz, Rasif Ajwad, Moin Mahmud Tanvee and MA Mottalib. "A modified algorithm for DNA motif finding and ranking considering variable length

motif and mutation”, in **ReTIS - 15**, 2015 IEEE 2nd International Conference on Recent Trends in Information Systems (ReTIS). DOI: 10.1109/ReTIS.2015.7232844.

11. **Adnan Ferdous Ashrafi**, Shah S Mahin and Tarikuzzaman Emon. “Cancerous/Disease DNA Prediction Using Fixed Length Motifs/Frequent Patterns Matching”, in **IJSRSET**, International Journal of Scientific Research in Science, Engineering and Technology, Volume: 2, Issue: 5, Print ISSN: 2395-1990, Online ISSN: 2394-4099.
12. Zonayed Ahmed, **Adnan Ferdous Ashrafi** and Maliha Mahbub. “Clustering based Max-Min Scheduling in Cloud Environment”, in **IJACSA**, International Journal of Advanced Computer Science and Applications, Volume: 8, Issue: 9, Pages: 278-283, DOI: 10.14569/IJACSA.2017.080940.
13. Md Mehedi Hassan Onik, Shakhawat Ahmmed, **Adnan Ferdous Ashrafi** and Tareque Mohmud Chowdhury. “Prediction of a gene regulatory network from gene expression Profiles with Linear Regression and Pearson Correlation Coefficient”, in **ICCIT-16**, 2016 19th International Conference on Computer and Information Technology (ICCIT), Pages: 327-332.

SELECTED PROJECTS

Classification of ASD using transfer learning based approach

Master's dissertation at Islamic University of Technology

Dhaka, Bangladesh

Jan. 2022- Present

- As the primary researcher, developing a system for employing multi-modal dataset for detection and classification of Autistic Spectrum Disorder(ASD) from Typical Developing (TD).
- Experimenting with various modified architectures to evaluate the correctness and feasibility of such transfer learning approaches.
- Collecting real-time data in order to validate the findings from the modified novel architecture.

Compression of genetic data using Deep Learning

Supervised undergraduate thesis at Stamford University Bangladesh

Dhaka, Bangladesh

Jun. 2021- Mar. 2022

- As a supervisor, developed a system for compressing DNA and RNA data using deep learning and arithmetic encoding.
- Used a custom model architecture in deep learning to achieve a breakthrough bits-per-base.
- Compared with state-of-art research works and achieved a 8% reduction in bits-per-base evaluation metric.

Movie recommendation system

Supervised undergraduate thesis at Stamford University Bangladesh

Dhaka, Bangladesh

Feb. 2020- Jul. 2021

- As a supervisor, developed a system for movie recommendation inspired by Netflix and YouTube recommendation algorithm.
- Co-related viewing recommendation with user behavior and recommended contents based on that.
- Carried out comparison with latest systems and did qualitative analysis.

Credit Card fraud detection using Deep Learning

Supervised undergraduate thesis at Stamford University Bangladesh

Dhaka, Bangladesh

Sep. 2019- Jul. 2020

- As a supervisor, developed a system for a credit card fraud detection from pre-processed dataset.
- Deployed several ML and DL models for quantitative comparison.
- Compared with state-of-art work on credit card fraud detection.

Development of autonomous obstacle avoidance using AI
Supervised undergraduate thesis at Stamford University Bangladesh

Dhaka, Bangladesh
Aug. 2019- Jun. 2020

- As a supervisor, developed a system for a automated vehicle obstacle avoidance.
- Used, state of art deep learning models solutions for detecting objects.
- Developed a remote controlled hardware system using Raspberry PI and Plicamera.

Compression of Genetic Sequence using Pattern Indexing
Supervised undergraduate thesis at Stamford University Bangladesh

Dhaka, Bangladesh
Jan. 2018- Aug. 2018

- As a supervisor, developed a system for compression of genetic sequences into smaller size and formats for proper storing.
- Developed the system using unique pattern indexing and frequent pattern mining.
- Tested the system against DNA resources from NCBI.
- Developed an efficient system that was able to compress genetic data by around 58 percent.

Data Scrapping for E-Commerce Systems
Supervised undergraduate project at Stamford University Bangladesh

Dhaka, Bangladesh
Sep. 2017- Feb. 2018

- As a supervisor, developed a system for scrapping e-commerce products.
- The system provides personal recommendation of products over the interaction and activities of its users.
- Developed a database-less e-commerce system.

Data Scrapping for News Portal and Personalization
Supervised undergraduate project at Stamford University Bangladesh

Dhaka, Bangladesh
Jan. 2017- Aug. 2017

- As a supervisor, designed a new system for scrapping news from all over the internet.
- Tested the system for personalization over interests and popularity.
- Developed a database-less news portal with interest recommendation and personalization.

Bengali Optical Character Recognition using Google Tesseract
Supervised undergraduate project at Stamford University Bangladesh

Dhaka, Bangladesh
Jun. 2016 - Dec.2016

- As a supervisor, designed a trained data for OCR using Google Tesseract.
- Scrapped data from Bengali Language Blogs to design a new trained data.

E-Commerce Solutions
Developer at XeonBD

Dhaka, Bangladesh
Nov. 2014- Aug. 2015

- As a team member developed an ERP system namely OMS (Office management system) that helped to automate all necessary divisions/departments of a small enterprise office. It had attendance, procurement, inventory, human resources etc. built with scale-able corpus.
- As a team lead developed several e-commerce solutions for business clients.
- Acted as support for any server and hosting related issues.

DNA motif finding and Ranking
Undergraduate Dissertation

Gazipur, Bangladesh
Jan. 2014- Nov. 2014

- Developed a new algorithm for de novo motif finding from DNA.
- Proposed new method for identifying motifs using hash tables and integer mapping.
- Simulated for DNA of pigs, rats, cat, mosquito etc..

TECHNICAL & COMMUNICATION SKILLS

- IELTS: 8.0 (Reading: 8.5, Writing: 7.0, Listening: 9.0, Speaking: 7.0)
- GRE: 307 (Quantitative: 159, Verbal: 148, AWA: 4.0)
- Programming skill: Good knowledge of Python, Java, PHP and MVC, MatLab, C, C++, C#.
- Tools: LaTeX, Octave, WeKa etc.

AWARDS & ACHIEVEMENTS

- Full Merit Scholarship at Islamic University of Technology (for four years) *Jan. 2011 - Dec. 2014*
- Organizer of 6th IUT National ICT Fest – 2014 *Oct. 2014*
- Member of organizing committee of 5th AB Bank IUT National ICT Fest - 2013 *Sep. 2013*
- Chess captain for the academic year 2014 at IUT. *Jan. 2014 - Nov. 2014*
- Table Tennis semi-finalist in IUT in 2013. *Jul. 2013*
- President of chess club at Notre Dame College for session of 2009-2010. *Feb. 2009 - Feb. 2010*