

# Md. Asraful Sharker Nirob

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## PROFILE SUMMARY

After completing my undergraduate degree in Computer Science and engineering, I have been involved in various academic and co-curricular activities. I am currently a Research Assistant at the Health and Informatics Lab of Daffodil International University (DIU). I take part in deep learning and machine learning-related projects with professors from other universities to help in the growth of research in this domain. I have published ten research papers in different international peer-reviewed journals and conferences. I have also worked as a Junior Software Engineer for about a year and as a Student Associate part-time during my university years. I have good graphic design skills and developed my verbal skills while serving in different welfare societies in Bangladesh.

## TECHNICAL SKILLS & RESEARCH INTERESTS

- **Research Focus:** Machine Learning, Computer Vision, Natural Language Processing (NLP), Big Data Analytics
- **Technical Proficiencies:**
  - **Programming:** Python, C, C++, Java, JavaScript
  - **ML/DL Frameworks:** TensorFlow, Keras, PyTorch, Scikit-learn
  - **Data Processing & Visualization:** Pandas, NumPy, Matplotlib, Seaborn
  - **Web Development:** HTML/CSS, JavaScript, React.js
  - **Tools & Platforms:** VS Code, Jupyter Notebook, Git, Docker, LaTeX
  - **Design & Productivity:** Adobe Illustrator, Photoshop, MS Office (Excel, Word, PowerPoint)
- **Core Competencies:**
  - Deep Learning & Neural Networks | Data Collection & Preprocessing | Statistical Modeling
  - Cross-functional Collaboration | Research Reporting | Agile Development
- **Languages:** English (Fluent), Bengali (Native)

## EXPERIENCE

### Undergraduate Research Assistant

June 2024 – Present

*Health and Informatics Lab*

*DIU, Bangladesh*

- Collected different kinds of datasets for model training from Bangladesh
- Data processing like segmentation, feature extraction, histogram
- Applied multiple models like EfficientNet, ResNet, Inception, and so on
- Developed model like EDDNet-30 COLD-12

### Junior Software Engineer - Web

May. 2023 – May, 2024

*Increments Inc*

*Uttara, Dhaka, Bangladesh*

- Worked with React.JS
- Making responsive web template with vanilla HTML, CSS, JS
- Utilized version control systems such as Git for code management and collaboration

### Student Associate

May 2022 – April 2023

*CDC, Daffodil International University*

*Ashulia, Savar, Dhaka*

- Worked with the Core team of CDC
- Worked with Adobe Illustrator, PhotoShop, Spreadsheet, Docs, and so on

## EDUCATION

### Daffodil International University

Savar, Dhaka, Bangladesh

*Bachelor of Computer Science and Engineering, CGPA: 3.70 (Scale 4.00)*

*January 2020 – January 2024*

- M. Assaduzzaman, P. Bishshash, **M. A. S. Nirob**, A. A. Marouf, J. G. Rokne, and R. Alhajj, “XSE-TomatoNet: An Explainable AI based Tomato Leaf Disease Classification Method Using EfficientNetB0 with Squeeze-and-Excitation Blocks and Multi-Scale Feature Fusion,” *MethodsX*, p. 103159, Jan. 2025, doi: 10.1016/j.mex.2025.103159.
- T. Khatun, **M. A. S. Nirob**, P. Bishshash, M. Akter, and M. S. Uddin, “A Comprehensive Dragon Fruit Image Dataset for Detecting the Maturity and Quality Grading of Dragon Fruit”, *Data in Brief*, p. 109936, Dec. 2023, doi: 10.1016/j.dib.2023.109936.
- **M. A. S. Nirob**, P. Bishshash, T. Khatun, S. Sharmin, M. Z. Hasan, and M. M S Alam, “Attention-Based MultiScale Fusion for Brain Tumor Classification with Explainable AI”, Accepted for 2025 International Conference on Electrical, Computer and Communication Engineering (ECCE)
- P. Bishshash, **M. A. S. Nirob**, M. H. Shikder, A. H. Sarower, T. Bhuiyan, and S. R. H. Noori, “A comprehensive cotton leaf disease dataset for enhanced detection and classification”, *Data in Brief*, pp. 110913–110913, Sep. 2024, doi: 10.1016/j.dib.2024.110913.
- S. R. Adapa, **M. A. S. Nirob**, S Bhatt, M Yerram, AP Nivas, “Enhancing Credit Card Fraud Detection: A Novel Approach with Random Forest and Behavioral Biometrics”, *International journal for research in applied science and engineering technology*, vol. 12, no. 3, pp. 2858–2866, Mar. 2024, doi: 10.22214/ijraset.2024.59510.
- K. Siam, P. Bishshash, **M. A. S. Nirob**, S. B. Mamun, Md Assaduzzaman, and Sheak, “A Comprehensive Image Dataset for the Identification of Lemon Leaf Diseases and Computer Vision Applications”, *Data in Brief*, pp. 111244–111244, Dec. 2024, doi: 10.1016/j.dib.2024.111244.
- A. K. M. F. K. Siam, **M. A. S. Nirob**, P. Bishshash, A. Ghosh, and S. R. H. Noori, “A data-driven approach to turmeric disease detection: Dataset for plant condition classification,” *Data in Brief*, vol. 59, p. 111435, Feb. 2025, doi: <https://doi.org/10.1016/j.dib.2025.111435>.
- **M. A. S. Nirob**, I. B. K. Deeya, L. Rukhsara, T. Rabeya and I. Jahan, “Advancing Agricultural Diagnostics with a Hybrid Deep Learning Model for Sugarcane Leaf Disease Classification”, Accepted for publication 6th IEEE International Conference on Sustainable Technologies for Industry 5.0.
- M. A. Rahman, **M. A. S. Nirob**, M. Akter, M. B. Ayan and I. J. Payel, “Advancing Agricultural Diagnostics with a Hybrid Deep Learning Model for Sugarcane Leaf Disease Classification”, Accepted for publication 6th IEEE International Conference on Sustainable Technologies for Industry 5.0.
- **M. A. S. Nirob**, P. Bishshash, K. Siam, M. O. Faruq, T. I. Tareq and M. Assaduzzaman, “COLD-12: A Multi-Level Feature Extraction Hybrid CNN Model for Accurate Cotton Disease Diagnosis”, Submitted to Franklin Open.
- **M. A. S. Nirob**, P. Bishshash, K. Siam, M. O. Faruq, T. I. Tareq and M. Assaduzzaman, “COLD-12: A Multi-Level Feature Extraction Hybrid CNN Model for Accurate Cotton Disease Diagnosis”, Submitted to Franklin Open.

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## ON GOING WORKS

### Develop a deep learning multi-scale fusion network model

September 2024 – Present

- Aim: To utilize a multi-scale model for the classification of eye diseases, enhancing predictive accuracy and enabling early detection.

### Customized hybrid deep learning model

October 2024 – Present

- Aim: To utilize a hybrid deep learning model for the classification of cotton leaf diseases.

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## CO-CURRICULAR ACTIVITIES

### Assistant General Secretary | Computer And Programming Club

January 2022 – December 2023



- Organized events such as C-Khoon and Unlock the Algorithm to engage students in competitive programming.
- Facilitated coding workshops for freshers, helping them to develop their programming skills and confidence.
- Mentored junior members by providing guidance on coding best practices and project development.

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## REFERENCES


### • Dr. Md Zahid Hasan

Associate Professor, Daffodil International University, Dhaka, Bangladesh.

 zahid.cse@diu.edu.bd       +8801672580748

### • Tania Khatun

Assistant Professor, Daffodil International University, Dhaka, Bangladesh.

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