

Sarbajit Paul Bappy

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About Me

Completed BSc in Computer Science and Engineering from Daffodil International University, with an Erasmus+ exchange at Mälardalen University, Sweden. Strong research focus on deep learning, computer vision, and explainable AI, with applications in healthcare and agriculture. Actively engaged in ongoing research and publications on disease detection from medical and agricultural images. Highly motivated toward impactful research, quality teaching, and global collaboration, with a clear academic trajectory toward graduate studies and academia.

Education

Daffodil International University, Dhaka, Bangladesh

Bachelor of Science in Computer Science and Engineering

CGPA: 3.95/4.00 (Batch First)

May 2022 – May 2026

Mälardalen University, Västerås, Sweden

Erasmus+ Exchange Semester in Computer Science and Engineering

Grade: Passed

Jan 2025 – Jun 2025

Govt. M. M. City College, Khulna, Bangladesh

HSC in Science

GPA: 5.00/5.00

Jul 2017 – Dec 2019

Work Experience

- **Lecturer**, Department of Computer Science and Engineering, Daffodil International University (DIU) *July 2026 – Present*
 - Teaching **Data Structures (Theory and Laboratory)**, **Computer Graphics** and **Software Quality Assurance (SQA)** at the undergraduate level.
 - Designing lecture content, lab exercises, assignments, and assessments aligned with course outcomes.
 - Evaluating student performance and providing academic guidance and mentoring.
 - Participating in departmental academic and instructional activities.
- **Research Assistant**, Health Informatics Research Lab (HIRL), Department of Computer Science and Engineering, Daffodil International University (DIU) *January 2026 – July 2026*
 - Worked under the supervision of Dr. Md. Zahid Hasan (Associate Professor & Lab Director) and Prof. Dr. Sheak Rashed Haider Noori (Professor & Head, Department of CSE).
 - Coordinated research activities within the lab and supported its academic mission.
 - Contributed to ongoing health informatics research initiatives at HIRL.
- **Teaching Assistant**, Department of Computer Science and Engineering, Daffodil International University (DIU) *October 2025 – June 2026*
 - Worked under the supervision of Professor Dr. Fernaz Narin Nur.

- Assisted in undergraduate courses (Information Security, Computer Network, Database Management System, Data Communication), laboratory sessions, and coursework evaluation.
- Provided academic and research support within the department.

Research Work & Publications

Journal Articles (Published)

1. Sohel, A., Turjy, R. C. D., Paul, S. P., Assaduzzaman, M., Marouf, A. A., Rokne, J. G., & Alhajj, R. (2025). **SkinVisualNet: A Hybrid Deep Learning Approach Leveraging Explainable Models for Identifying Lyme Disease from Skin Rash Images.** *Machine Learning and Knowledge Extraction*, 7(4), 157. DOI: [10.3390/make7040157](https://doi.org/10.3390/make7040157)
2. Sohel, A., Bijoy, M. H. I., Paul, S. P., Turjy, R. C. D., Othman, M., & Samad, M. A. (2026). **JackVisualNet: A Fine-Tuned Hybrid Deep Learning Model for Jackfruit Disease Classification with Explainable AI.** *PeerJ Computer Science*, 12, e3977. DOI: [10.7717/peerj-cs.3977](https://doi.org/10.7717/peerj-cs.3977)

Journal Articles (Under Review / Submitted)

1. Bappy, S. P., Tarafdar, S., Alvi, S. T., Turjy, R. C. D., & Sohel, A. **Federated Learning for Securing Healthcare Data: A Comprehensive Review on Privacy, Robustness, and Defense Mechanisms.** *Social Sciences & Humanities Open* (Q1). (Minor Revision)
2. Bappy, S. P., Bijoy, M. H. I., Turjy, R. C. D., Tarafdar, S., Nur, F. N., Sohel, A., Hasan, M. Z., Arefin, M. S., Dhar, P. K., Shimamura, T., & Ohidujjaman. **DeepMed-A3Net: A Lightweight Edge-Deployable Backbone with Modality-Aligned Federated Learning for Fair and Efficient Heterogeneous Clinical AI** *Neural Computing and Applications* (Q1). (Under Review)
3. Mondal, A.[†], Paul Bappy, S.[†], Nur, F. N.[†]. **Spatiotemporal Patterns and Machine Learning for Road Traffic Accident Prediction in Developing Countries: A Systematic Review with Implications for Bangladesh.** *Journal of Traffic and Transportation Engineering (English Edition)* (Q1). (Under Review; Equal contribution by all marked authors.)
4. Nur, F. N.[†], Bappy, S. P.[†], Mondal, A., Dipu, M. H., Sharmin, S., Moon, N. N., & Jahan, H. **A Quantum-Inspired Hybrid DenseNet Framework with Imbalance-Aware Learning for MRI-Based Alzheimer's Disease Classification.** *PLOS ONE*. (Under Review; Equal contribution by all marked authors)

Book Chapter

1. Bappy, S. P., Turjy, R. C. D., Mondal, A., Bithi, T., Bijoy, M. H. I., & Sohel, A. **Evaluating Deep Learning Models and Explainable AI for Mushroom Classification.** *Taylor & Francis Group*. (Accepted for Publication)

Conference Papers (Accepted / In Press)

1. Bithi, S. A., Nur, F. N., Bappy, S. P., Moon, N. N., & Chakraborty, A. (2026). **An Enhanced Hybrid Cipher with Vigenere and Dynamic Caesar with Key-Position Swapping for Secure Encryption.** *Proceedings of the 2026 IEEE 2nd International Conference on Quantum Photonics, Artificial Intelligence & Networking (QPAIN)*, 1–7. DOI: [10.1109/QPAIN69676.2026.11546299](https://doi.org/10.1109/QPAIN69676.2026.11546299)

Conference Proceedings (Abstract Published)

1. Paul, S. P., Turjy, R. C. D., & Sohel, A. **A Hybrid Deep Learning Approach for Identifying Jackfruit Leaf and Fruit Disease.** *Proceedings of IEEE CS BDC Symposium 2024*, Vol. 3.
2. Turjy, R. C. D., Paul, S. P., & Sohel, A. **A Hybrid Deep Learning Approach for Identifying Lyme Disease from Skin Rash Images.** *Proceedings of IEEE CS BDC Symposium 2024*, Vol. 3.

Projects

- **AI Email Assistant:** Intelligent Gmail triage system using Ollama LLM, Gmail API, Telegram API, and Streamlit for automated email classification, job opportunity detection, and tailored cover letter generation.
- **RetroX: Dengue Outbreak Forecasting System:** ML-powered outbreak forecasting platform using Scikit-learn, Optuna, SHAP, FastAPI, and Streamlit with leakage-safe time-series feature engineering and explainable AI integration.
- **HostelEase: Hostel Management System:** Multi-role hostel management platform built with PHP, MySQL, Bootstrap, and Docker featuring room lifecycle management, automated billing, complaint tracking, and secure authentication.
- **Email Spam Classifier:** NLP-based spam detection system using Random Forest and Decision Tree models achieving 97% classification accuracy on 5,172 email samples.

Courses & Certifications

- **Supervised Machine Learning: Regression and Classification** (Instructor: Andrew Ng) – Coursera, DeepLearning.AI (2023–2024).
- **CSE Fundamental** – Phitron.io (2022–2024). Includes DSA, OOP, DBMS, AWS, and ML foundations.

Technical Skills

Programming: Python, C, C++, SQL, HTML, JavaScript

ML/DL Frameworks: TensorFlow, Keras, Scikit-Learn, OpenCV

Tools: Git/GitHub, Jupyter Notebook, Pandas, NumPy, Matplotlib, Covidence, VS Code

Research Tools: Covidence, SPSS, LaTeX

Awards

- Erasmus+ ICM Exchange Scholarship, Mälardalen University, Sweden (2025)
- 29th Position, Take Off Programming Contest (2022)
- Regional Winner, Jatiyo Shishu Kishore Quiz Utsav (2016)
- Regional Winner, National Creative Talent Hunt Competition (2013–2016)

Leadership & Volunteering

- Vice Chair (Technical), IEEE DIU SB CS Chapter (2024 – 2025)
- Secretary, IEEE DIU SB WIE Affinity Group (2024 – 2025)
- Campus Organizer, Brikkhobondhu (2024)

References

Dr. Fernaz Narin Nur

Professor

Department of Computer Science and Engineering
Daffodil International University, Dhaka

fernaz.cse@diu.edu.bd

Amir Sohel

Assistant Professor (Study Leave)

Department of Computer Science and Engineering
Daffodil International University, Dhaka

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I hereby declare that all the information provided above is true and accurate to the best of my knowledge and belief.