MD RASHIK SHAHRIAR AKASH

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EDUCATION

PhD	Kennesaw State University, Georgia Program: Computer Science	2025 - Present
BSc	Daffodil International University, Dhaka Program: Computer Science and Engineering CGPA: **3.93/4.00 (Gold Medalist)**	2024

EXPERIENCE

Graduate Research Assistant, Kennesaw State University *Aug 2025 to Present*
Trustworthy Machine Learning Research Lab, Marietta
- Collaborating on NIH funded project.

Research Assistant, Computer Vision *Jul 2024 to Jul 2025*
Health Informatics Research Lab, Dhaka
- Collaborating in Computer Vision Projects, especially in the area of Medical Imaging.

Research Assistant, Computer Vision *Apr 2023 to Jun 2024*
Apurba-DIU Research and Development LAB, Dhaka
- I assisted in literature reviews, research collaborations, and the development and optimization of custom computer vision algorithms. I contributed to three government-funded projects, working with teams focused on OCR data annotation, segmentation, and testing Font engines and screen readers.

Trainer, Advance Machine Learning and Deep Learning Bootcamp *May 2023 to Dec 2023*
DIU NLP & ML Research Lab, Dhaka
- I developed and delivered a Boot Camp curriculum, conducted lectures on Machine Learning and Deep Learning, and guided hands-on coding exercises using frameworks like TensorFlow and PyTorch. I provided mentoring, addressed doubts, and supervised capstone projects, offering feedback on participants' progress.

Lab Prefect, Computer Science and Engineering *May 2022 to Dec 2022*
Daffodil International University, Dhaka
- I assisted in teaching Algorithm Lab classes, helping students solve algorithm-related problems and reviewing their lab reports, providing feedback for improvement.

RESEARCH

1. **Islam R & Akash RS**, Hossen Rony MA, Hasan MZ. (2024). "SAMU-Net: A Dual-Stage Polyp Segmentation Network with a custom attention-based U-Net and Segment anything Model for Enhanced Mask Prediction." **Array**, 100370. [**Q1**][[**Link**](#)]
2. **Akash RS**, Islam R, Badhon SSI, Hossain KT. "CerviXpert: A multi-structural convolutional neural network for predicting cervix type and cervical cell abnormalities." **Digital Health**. 2024;10. [**Q2**][[**Link**](#)]
3. **Akash RS**, Ullah M, Islam R, Nahid S, Reza AW, Arefin MS "A Comprehensive Review on Family Budget Management." In International Conference on Intelligent Computing & Optimization (pp. 379-391). Cham: Springer Nature Switzerland. [[**Link**](#)]
4. Tapu MA, **Akash RS**, Al Fahim H, Jarin TM, Bhuiyan T, Reza AW, Arefin MS "A Review on the Impacts of Social Media on the Mental Health." In International Conference on Intelligent Computing & Optimization (pp. 181-195). Cham: Springer Nature Switzerland. [[**Link**](#)]
5. Early Dengue Prediction in Bangladesh: A Comparative Study with Feature Analysis, Explainable AI and Model Optimization (*Submitted to SN Computer Science* [**Q2**])
6. DuoSeedNet: An Optimized Dual-Branch Convolutional Neural Network for Enhanced Fruit Seed Classification (*Submitted to Cluster Computing* [**Q1**])
7. Open Science: The Prior Knowledge on Natural Language Processing in Bengali Explosive Survey of 7 Years (*Submitted to ACM Surveys* [**Q1**])

SKILLS

Programming: Python, C, C++, Java
Machine Learning Algorithm: Intermediate Level
Machine Learning Framework and Libraries: TensorFlow, PyTorch, Scikit-learn, Keras
Visualization: Matplotlib, Seaborn, OpenCV, PIL, Pandas, NumPy
Data Processing: Exploratory Data Analysis, Feature Selection
Operating System: Windows, Linux, Mac

General Computer Skills: Office Applications (Microsoft Office, Google Suite) LaTex.

PROJECTS

1. **MRI Image Analysis for Brain Tumor Detection and Classification using Deep Learning [Link]**
   Implemented deep learning models to classify brain MRI scans into four tumor categories, achieving an accuracy of 88.63% with InceptionV3.
2. **Accurate Breast Cancer Prediction using Machine Learning [Link]**
   Implemented machine learning algorithms to predict breast cancer diagnosis based on cell nucleus characteristics, with Logistic Regression and XGBoost achieving competitive accuracy.
3. **DNA Kingdom Prediction and Taxonomic Analysis Using PySpark [Link]**
   Analyzed DNA codon usage patterns to classify sequences into taxonomic kingdoms and explored evolutionary trends using PySpark for large-scale data processing. Also employed machine learning models and achieved high scalability with PySpark.
4. **DIU Bus Management System [Link]**
   A Django based system that will automate all the record keeping activities such as buses management, route management and passenger management (Booking and Payments).

EXTRA CURRICULAR ACTIVITIES

Vice President, DIU-CPC Daffodil International University Computer and Programming Club

Problem Setter, Datathon Contest Fall 2023, TypeTrek Face-OFF 2023

Judge, Googling Contest 2023

Organizer, Take Off Programming Contest 2023 and Unlock the Algorithm Programming Contest 2023

Organizer, DIU CSE Fest 2022

Volunteer, Bangladesh Olympiad in Informatics (BdOI 2023)

Volunteer, International Conference on Big Data, IoT and Machine Learning (BIM 2023)

Volunteer, National Girls Programming Contest (NGPC 2022)

AWARDS AND ACHIEVEMENTS

- **Level 2** (FE) passer of Information Technology Engineers Examination   2023
- Performance-based scholarship at Daffodil International University   2020 to 2024
- Government scholarship in Junior School Certificate Examination   2013
- Government scholarship for High School Entrance   2011