Jasmin Jahan Puspo

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Education

M.Sc (Thesis) Shahjalal University of Science & Technology — March 2023 - Present
Major: Computer Science & Engineering
GPA: N/A

B.Sc (Engg.) North East University Bangladesh — January 2017 - June 2021
Major: Computer Science & Engineering
CGPA: 3.54/4.00

Research Interest

- Medical Imaging
- Computer Vision
- Machine Learning

Research Experience

Volunteer Research Intern | Remote — Dhaka, BD
Mentor: Abdullah Al Maruf — September 2023 - February 2024

- Skilfully analyzed datasets, boosted data accuracy by 50%, and reduced run time.
- Collaborated with team members to develop innovative research methodologies, improving efficiency and accuracy.
- Summarized from recent research papers and wrote a literature review catalog template.

Undergraduate Thesis | NEUB — Sylhet, BD
Supervisor: Muhammad Mahir Hasan Chowdhury — July 2020 - June 2021

- Segmented gray images (MIAS Dataset) via the Mask R CNN algorithm
- Classified shapes using CNN to obtain their stages

Under Review

Puspo, J. J.,other authors. (2024). **EnsembleNet: Enhancing vector mosquito species classification through transfer learning-based ensemble model.** Plos One journal.
Puspo, J. J. (2024). **A Novel Approach to classify Breast Cancer Using Transfer Learning.** ICCIT conference.

Technical Skills

Programming Languages: Proficient in C, Java, Python
Deep Learning Frameworks: TensorFlow, Keras
Data Analysis Tools: Numpy, Pandas, Scikit-learn, OpenCV

Teaching Experience

Women's Model College — Sylhet, BD
Trainee ICT Lecturer(9^{th} - 12^{th} grade) — February 2024
Responsibilities:

- Took classes of diverse sections e.g. Science, Arts, and Commerce.
- Responsible for taking 40 minutes of multimedia class each day up to 4 lectures.
- Taught learning, reading, writing, and timing strategies to enhance students' marks.

Sylhet International School and College Sylhet, BD
ICT Teacher(3rd - 8th grade) September 2022 - December 2022
Responsibilities:

- Prepared lesson plans including laboratory class, lecture, exam, and homework.
- Graded papers, made questions, and took class tests.
- Reported students' performance weekly to the school board.

Work Experience

Russkin Bright Sylhet, BD
Content Writer | Hybrid October 2022 - May 2023
Responsibilities:

- Researched and created engaging curriculum, modules, and MCQ for various courses.
- Wrote sales content of 300-450 words by maintaining 100% quality and zero plagiarism.
- Wrote 3-4 modules each day of targeted content, rewrote based on editor feedback.

Personal Projects

Fully Automatic Computer-aided Mass Detection and Segmentation via Pseudo-Color Mammograms and Mask R-CNN:

- Conceptualized and implemented this research paper.
- Reduced image size using MatLab; Data size: 8.38 GB; Mask R CNN algorithm experimented on Gray and PCM images and predicted 67% and 87% accuracy.

Object Detection & Segmentation:

- Gathered and annotated data (15 images) from the internet; Created charts in Google Colab to perform preliminary analysis and visualize data using Matplotlib.
- Detected and segmented aimed objects via the Mask R CNN algorithm, leading to 95% success.

Academic Projects

Breast Cancer Classification:

- Utilized an ideal CNN model to classify the binary cancer stage with 95% accuracy on the MIAS dataset.

Bangla Money Recognition-Kaggle:

- Classified Bangla Nine notes with KNN, Linear Regression, and CNN algorithms from scratch and compared them with Scikit Learn libraries to obtain similar accuracy.
    - Key achievement: Github Arctic Code Vault Contributor 2020.

Titanic Survival Prediction-Kaggle:

- Trained Random Forest and KNN algorithms to predict whether passengers would survive and received a 71% score.

Tic Tac Toe:

- Designed a 5*5 GUI interface in Python using the Tkinter module that decides whether a player wins, loses, or ties with the computer.

Object Info:

- Collected short descriptions and a single image of 25 objects from the internet as input; identified and briefly described an object with pronunciation as output.

Desktop Application:

- Could search for specific files from the local hard disks written in Java.

Line Follower Robot:

- The four-wheeled robot passed in a particular direction, i.e., lines (90, 180 degrees) and angles (V, U shapes).
    - Key accomplishment: Placed second in the NEUB ICT Fest 2018.

Vision-based Vacuum Cleaner:

- Avoided the frontier obstacles automatically while vacuuming the floor.

Study Management System:

- Designed and established a user-friendly website with PHP, HTML5, CSS3, and MySQL where students could store their study materials.

Medicare:

- Established an interactive website that uses PHP, HTML5, CSS3, and MySQL to provide health-related information.

Courses on DataCamp

Biomedical Image Analysis in Python by Stephen Bailey — certificate
Image processing in Python by Rebeca Gonzalez — certificate

Leadership Experience

Private Tutor — Sylhet, BD

- Tutored for school and college students to achieve better grades — May 2013 - June 2024

Languages

- **Bangla**: Native Language;
- **English**: Fluent Language

Last Update: October 14th, 2024