Jasmin Jahan Puspo

jasminjahanpuspo@gmail.com | Academic Portfolio | Sylhet, Bangladesh

Education

Master's in Computer Science and Engineering Jan. 2023 – present
Shahjalal University of Science & Technology *CGPA: N/A (in progress)*

Bachelor's in Computer Science and Engineering Jan. 2017 – Jun. 2021
North East University Bangladesh *CGPA: 3.54/4.0*

Research Interests

• Medical Imaging • Computer Vision • Machine Learning

Publications

Published

- SkinNet: An EnsembleNet Technique to Detect Skin Cancer Using Pre-Trained Models. *ECCE 2025*
- EnsembleNet: Enhancing vector mosquito species classification through transfer learning-based ensemble model. *Plos One 2024*
- A Novel Approach to Classify Breast Cancer Using Transfer Learning. *ICCIT 2024*

In Review

- A Multimodal Technique for Chest Disease Classification Through CNN Architectures. *NCIM 2025*

Academic Thesis

An Average K-fold EnsembleNet Approach for Binary Classification in Digital Mammography. *Master's Thesis, SUST | 2024*
One Stage Detection, Segmentation, Shape, and Stage Classification in Digital Mammography. *Undergraduate Thesis, NEUB | 2021*

Research Experience

AI Researcher Dec. 2024 - present
SafeNet.AI| Remote *Dhaka, BD*

- Implementing a deep learning model in Python for automated disease detection on chest X-ray images, focusing on identifying patterns associated with conditions such as pneumonia and lung cancer.

Volunteer Research Intern | *Remote* Sep. 2023 – Feb. 2024

- Collaborated with lab team to develop innovative research methodologies, improving efficiency and accuracy
- Summarized from recent research papers and wrote a literature review catalog template

Professional Experience

ML Engineer Feb. 2025 - present
NxtVis *Dhaka, BD*

- Developing and optimizing deep learning models for real-time anomaly detection in video streams.
- Collaborating with cross-functional teams to refine datasets and improve model performance.

Content Writer Oct. 2022 - May 2023
Russkin Bright | Hybrid *Sylhet, BD*

- 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.

Technical Skills

Programming Languages: Python, C, Java
Frameworks and Libraries: TensorFlow, Keras, PyTorch
Data Analysis Tools: Numpy, Pandas, Scikit-learn, OpenCV

Dataset Collections

• Bengali Taka • Bengali Sign Language • Nagri Alphabet • Annotated Oral X-ray

Teaching Experience

IT Teacher Apr. 2025 - present

Quran Learning Center *Sylhet, BD*

- Instruct students in Mathematics and ICT through theoretical lessons and hands-on projects.

Trainee ICT Lecturer | $(9^{\mathbf{th}} - 12^{\mathbf{th}})$ grade Feb. 2024

Women's Model College *Sylhet, BD*

- Responsible for conducting daily 40-minute multimedia classes, delivering up to four lectures each day.
- Conducted classes covering technological topics, including theoretical coursework, and programming languages.

ICT Teacher | $(3^{\mathbf{rd}} - 8^{\mathbf{th}})$ grade Sep. 2022 - Dec. 2022

Sylhet International School and College *Sylhet, BD*

- Prepared lesson plans including laboratory class, lecture, exam, and homework.
- Graded assignments, tests, and lab work, providing constructive feedback to help students improve academically.

Peer Tutor | $(3^{rd} - 12^{th})$ *grade* May 2013 – Jun. 2024

- Designed lesson plans and materials to simplify concepts, enhancing student understanding and engagement.
- Assisted students with college admissions, supporting them in securing placements at reputable colleges.

Programming Mentor Nov. 2024 - present

- Guided students in core programming concepts, building foundational skills in languages like C, and Python
- Provided personalized feedback on coding assignments and projects, led hands-on coding sessions and workshops

Undergraduate Student Assistant Jan. 2018 - Dec. 2020

North East University Bangladesh *Sylhet, BD*

- Provide guidance on a technical framework, programming concepts, and lab projects.
- Mentored 2 sections of 15 students through coursework: core concepts, coding practices, and methodologies.

Personal Projects

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

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

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.

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.