

# Md Abdul Mutalib

Chorugaon, Tukur Bazar-3100, Sylhet

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## Academic Credentials

Bachelor of Science (BSc) in Computer Science & Engineering  
North East University Bangladesh (NEUB)

Aug 2019 – Dec 2023

Thesis/Project: **Using Machine Learning and Deep Learning Models to Classify Pneumonia from X-ray Images**

CGPA: **3.47** / 4.00

## Research Experience

**Research Assistant | CRC Research Center**

June 2024- Present

**Project:** *Hand Gesture Recognition and Visual Estimations*

- Developing machine learning models for gesture recognition and image processing.
- Conducting literature reviews, implementing code, preparing detailed reports, and delivering research presentations.
- Enhancing model accuracy through data preprocessing and feature extraction

**Thesis:** *Using Machine Learning Models to Classify Pneumonia from X-ray Images*  
North East University Bangladesh

Feb 2023 – Dec 2023

- Developed models using SVM and CNN for pneumonia detection.
- **SVM:** Initial accuracy of 76.44% with HOG features; improved to 88.53% using the poly kernel.
- **CNN:** Achieved 87.6% test accuracy; improved to 92.94% with transfer learning and dropout regularization, reaching 94.58% with data augmentation adjustments.

## Work Experience

**Research and Development Intern | UniV**

Sep 2024 - Present

- Assisting in managing activities for the R&D Unit.
- Supporting ongoing research projects and tasks.
- Promoting UniV's mission within the local community.
- Planning intern activities and developing communication campaigns.

**Aspire Leadership Fellow | Aspire Institute**

Aug 2024 – Nov 2024

- Participating in the Aspire Leaders Program to enhance strategic thinking, teamwork, and community engagement.
- Collaborating with diverse future leaders to discuss social challenges and develop innovative solutions.
- Attending workshops led by industry experts to gain insights into effective leadership practices.

## Research Interests

Artificial Intelligence | Machine Learning | Computer Vision | Data Analytics | Big Data Analysis | Image Processing | Hand Gesture Recognition | Medical Imaging (Chest X-ray Analysis)

## Standardized Test Scores

IELTS: Overall Band Score 6.0 (Speaking: 6.5, Reading: 6.0, Writing: 6.0, Listening: 5.5)

## Publications

1. Currently working on publications related to the research project "*Hand Gesture Recognition and Visual Estimations*." Details will be updated upon submission and acceptance.

## Technical Skills

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Programming Languages: C, C++, Java, JavaScript, Python, R (basic),

Data Analysis and Machine Learning: Scikit-learn, NumPy, Pandas, Matplotlib, Seaborn, TensorFlow, Keras

Computer Vision: Image processing, object detection, hand gesture recognition using OpenCV

Deep Learning: image classification, object detection, and natural language processing

Documentation and Illustration: LaTeX, MS Office

## Laboratory Experiences

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- Machine Learning and Model Evaluation
- Image Processing and Computer Vision
- Neural Networks and Deep Learning
- Competitive Programming (ACM)
- Embedded Systems (Arduino)
- Network Configuration
- Database Management (SQL)

## Relevant Coursework

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Data Structures and Algorithms, Machine Learning, Deep Learning, Artificial Intelligence, Computer Vision, Database Systems, Operating Systems, Computer Networks, Discrete Mathematics, Numerical Methods, Object-Oriented Programming, Software Engineering

## Certifications:

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1. Machine Learning with Python IBM via [Coursera](#)
2. Supervised Machine Learning Stanford University via [Coursera](#)
3. What is Data Science IBM via [Coursera](#)
4. Python for Data Science via [Udemy](#)

## Activities and Achievements:

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- Participant, 3rd Engineering Career Summit | 2022 (3 days)
  - Networked with industry leaders and peers, gaining insights into career opportunities and trends in engineering
- Participant, 13th National Undergraduate Math Olympiad (NUMO-2022)
  - Demonstrated problem-solving and analytical skills in a competitive environment with peers.

## Extracurricular Activities:

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1. Executive Member, NEUB CSE Society June 2022-Aug 2023
  - Organized and managed events, workshops, and seminars related to Computer Science and Engineering
2. ACM Mentor, NEUB ACM Lab Jan 2022-Dec 2023
  - Provided guidance and support to students participating in ACM-related activities and competitions.
3. Event Organizer
  - Coordinated and arranged various programs, including Fresher's Reception and Cultural Programs, enhancing student engagement and community building.

## References:

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### Shahadat Hussain Parvez

Assistant Professor,

North East University Bangladesh

Sylhet, Bangladesh

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