

# Md. Abdul Mutalib

Chorugaon, Toker Bazar-3100, Sylhet

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## Academic Credentials

Bachelor of Science (BSc) in Computer Science & Engineering

Aug 2019 – Dec 2023

North East University Bangladesh (NEUB)

Thesis/Project: **Using Machine 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*

Feb 2023 – Dec 2023

North East University Bangladesh

- Developed models using SVM and CNN for pneumonia detection.
- **SVM:** Initial accuracy of 76.44% with HOG features; improved to 78.53% using the poly kernel.
- **CNN:** Achieved 78.6% test accuracy; improved to 88.94% with transfer learning and dropout regularization, reaching 89.58% 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 - Present

- 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: The test will be taken on 26 October 2024

## 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.

## Conference Proceedings:

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N/A

## 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 <a href="#">Coursera</a>                 |
| 2. Supervised Machine Learning  | Stanford University via <a href="#">Coursera</a> |
| 3. What is Data Science         | IBM via <a href="#">Coursera</a>                 |
| 4. Python for Data Science      | via <a href="#">Udemy</a>                        |

## 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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