

Mst Moushumi Khatun

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Skills

Languages: Python, PHP, JavaScript, SQL, HTML, CSS

Technologies & Tools: Langchain, NLTK, Spacy, HuggingFace, AWS, Kubernetes, Docker, Jira.

Work Experience

Bussiness Automation Ltd

July 2025- Present

Trainee Software Developer

- Developed and maintained web modules using Laravel (PHP), HTML, CSS, and JavaScript.
- Participated in manual testing and SQA process including test case creation and bug reporting.
- Collaborated in Agile environment and used Git for version control.
- PHP(Laravel), HTML, CSS, Bootstrap, JavaScript, MySQL, Manual Testing, SQA Git, Flask.

Nobleroot Ltd

July 2024- July 2025

Data Scientist

- Built machine learning models and pipelines for business use cases.
- Performed EDA to extract actionable insights and features
- Worked with business teams to deploy predictive solutions.
- Python (scikit-learn, NumPy, Pandas), SQL, Machine Learning, Predictive Modeling, Matplotlib, Seaborn, Git, VS Code, AWS(EC2), TensorFlow. .

Skill Service Ltd

Feb 2023- June 2024

Data Analyst

- Analyzed business data using Python and SQL to generate reports.
- Created dashboards and visuals for stakeholders.
- Led reporting automation project that improved reporting efficiency.
- Python (Pandas, NumPy), SQL, Power BI, Excel, Matplotlib, Seaborn, Jupyter Notebook.

Advance Machine Intelligence Research Lab

Sep 2022- Present

Research Assistant

- Trained a CNN model for crop disease detection with 92 percent accuracy.
- Applied deep learning and image processing techniques on real-world datasets.
- Python(TensorFlow, Keras, PyTorch), DeepLearning(CNNs), ComputerVision, ImageAugmentation, OpenCV, Jupyter Notebook, Google Colab.

Education

Bangladesh University of Business and Technology

Oct 2018- Dec 2022

B.S.C. in Computer Science and Engineering

CGPA: 3.01/4.00

Relevant Coursework: Object Oriented Programming, Databases, Discrete Maths, Data Structures and Algorithms, Operating Systems, Computer Networks

Certificates

- Bengali
- English
- Hindi

Project Work

- **EU Job Match Pro:** This project matches your CV with a job description using NLP (TF-IDF + Cosine Similarity). This is a Streamlit web app that helps match job seekers' resumes (CVs) with job descriptions based on semantic similarity using Natural Language Processing (NLP).
- **Medical Chatbot:** built a medical chatbot using a Large Language Model (LLM) and Retrieval-Augmented Generation (RAG) pipeline. It takes medical questions, searches relevant content from a medical encyclopedia (PDF), and responds in natural language using Hugging Face's LLM API.
- **Multilingual Legal Chatbot: Norwegian Constitution RAG System:** Designed and built a multilingual chatbot that answers questions based on the Norwegian Constitution's PDF. This project utilizes a Retrieval-Augmented Generation (RAG) architecture to provide accurate, document-specific information to users in Bengali, English, and Norwegian.
- **Norwegian Fish Movement Prediction using Machine Learning and LSTM:** Developed an AI-powered predictive model to forecast fish movement in key Norwegian coastal regions, leveraging environmental data such as water temperature, salinity, and depth. The project applies advanced machine learning (Random Forest, XGBoost) and deep learning techniques (LSTM) to analyze temporal patterns and predict fish presence, supporting sustainable fisheries management.

Publications

- **DeepUNet24: A Deep Learning Model for Lane Segmentation in Autonomous Vehicles Navigation(2025):** <https://dl.acm.org/doi/10.1145/3723178.3723232>
- **Multi-Sense Attention Network (MSANet): Enhanced Human Activity Recognition Using Deep Learning Architectures with Self-Attention Mechanisms (2025):** <https://dl.acm.org/doi/10.1145/3723178.3723226>
- **Yoga Posture Image Classification Using Big Transfer(BiT) (2024:)** <https://search.app/Qzi5779cgxgGaHNj6>
- **Self-Supervised Representation Learning for Human Activity Recognition Using Inertial Sensor Data:** Qpain 2025 (Accepted)- 1st AUTHOR.
- **Banana Leaf Spot Disease Detection using Deep Learning Algorithms :** Hadiur Rahman Nabil, Md. Golam Rabani Abir, Mst. Moushumi Khatun, Md. Eshmam Rayed and Md. Abdul Hamid, Artificial Intelligence in Agri culture, Springer, 2024 (Accepted)

Certificates

- **IT Training BD:** Hands on experience in SQA.
- **AMIR-Lab:** Research Assistant