

Mominur Rahman

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Work Experiences

Web Scraping & Automation Specialist

Freelancer | Dhaka, Bangladesh (Apr 2022 – Present)

- Developed and maintained **300+ automated web scrapers** using **Python (Selenium, BeautifulSoup)** to efficiently extract data from diverse online sources.
- Designed and implemented **end-to-end data automation workflows**, significantly improving data collection accuracy and operational efficiency.
- Applied **advanced Python techniques and data analysis** to transform scraped data into actionable insights for data science and business use cases.

Skills

Programming Languages: Python, C, C++, Assembly (Basic), SQL.

Generative AI & LLMs: LangChain, RAG (Retrieval-Augmented Generation), Hugging Face Transformers, LLM Fine-tuning, Prompt Engineering, MCP.

Machine Learning & Deep Learning: PyTorch, Scikit-learn, Fastai, Pandas, NumPy, Scipy.

Data Engineering & Web Scraping: Selenium, BeautifulSoup4, Appium, Requests, MongoDB (PyMongo), MySQL.

Model Deployment & Backend: Flask, Gradio, Linux, Docker.

Visualization & Analytics: Tableau, Matplotlib, Seaborn.

Front-End (Basic): HTML5, CSS, Bootstrap 5.

Tools & Platforms: Visual Studio Code, Jupyter Notebook, Git/GitHub, Hugging Face.

Projects

StackOverflow Tag Recommendation - AI Model

- Developed an end-to-end multi-label ML system to recommend Stack Overflow tags using PyTorch, BiLSTM, and BERT-based Transformers on 210K+ questions.
- Achieved strong model performance (**Micro F1: 0.86, Macro F1: 0.81, Exact Match: 68%**) through effective feature engineering, evaluation, and model selection.
- **Deployed the model using Gradio on Hugging Face Spaces**, enabling real-time inference via an interactive web interface and API-ready demo.

Object Detection for Security & Autonomous Systems

- Developed an **object detection model** with **Fastai**, classifying **11 distinct categories** such as **humans, airplane, bird, and cat**.
- **Use Cases:** Security surveillance, autonomous vehicles, aviation safety.
- Deployed the model on **Hugging Face** with a **Gradio** interface, enabling real-time object detection via an **API-based webpage**.

Amazon Best Sellers Data Analysis

- Scraped and analyzed **600+** products to identify top-performing categories and sales trends, driving actionable insights for e-commerce strategy.
- **Geographical Insights:** Mapped **brand distributions** across different countries.
- **Key Findings:** Higher reviews correlate with better seller rankings; new product releases show increasing sales trends.

Professional Summary

AI and Machine Learning–focused Computer Science student with **3.5+ years of experience in Python-based data automation and web scraping**, combined with hands on expertise in **machine learning, deep learning, and Generative AI**. Proven ability to **build end-to-end ML systems** from large scale data collection and preprocessing to model training, evaluation, and deployment using **PyTorch, Transformers, FastAI, and Hugging Face**. Experienced in **multi-label classification, object detection, and data-driven analytics**, with strong performance benchmarks and real-world deployments via **Gradio and Flask**. Brings a unique strength in **data sourcing and pipeline automation**, enabling high-quality datasets for AI applications, and is actively focused on advancing skills in **LLMs, RAG-based systems, and production-ready AI solutions**.

Education

Institute of Science and Technology (NU)

B.Sc (Hons.) in Computer Science and Engineering (CSE) | 2021 - Expected Dec 2026