Md Sifatullah Sheikh

Dhaka,Bangladesh mdsifatullahsheikh@gmail.com
MyPortfolio mdsifatullahsheikh SifatSwapnil2022

Technical Summary

- Research experience in applying deep learning and machine learning techniques to real-world problems.
- Developed and fine-tuned transformer-based models for domain-specific entity extraction involving medicinal plants and related terminologies.
- Proficient in deep learning frameworks such as `PyTorch`, `TensorFlow`, and tools like `scikit-learn`, `pandas`, and `NumPy`.
- Experienced in Python-based API development (`Flask`), UI prototyping (Figma), and deployment of lightweight ML services.
- Familiar with Git-based collaborative development, RESTful APIs, version control, and working in Linux-based environments.
- Skilled in data preprocessing and augmentation techniques (e.g., image normalization, rotation, cropping) to improve model generalization.
- Applied Explainable AI methods (Grad-CAM, SHAP, LIME) to interpret model decisions and produce visual insights.
- Experienced with cloud platforms `AWS`, for scalable model training and inference.

Skills

- **Programming Languages:** Python, C++, Java, JavaScript, SQL
- **AI/ML Languages:** TensorFlow, PyTorch, scikit-learn, Keras
- **Data Science & Tools:** Pandas, NumPy, Matplotlib, Seaborn, Jupyter, Excel
- **Web & UI Development:** HTML, CSS, Bootstrap, React, Figma
- **Software & Tools:** Git, GitHub, VS Code, LaTeX
- **Core Skills:** Machine Learning, NLP, Deep Learning, Predictive Modeling, Data Analytics, UI/UX Design

Research Experience

- **Artificial Intelligence (CSE366):** Conducted a research project on enhancing model transparency and interpretability in Deepfake Image Detection using explainable AI techniques and neural networks.
- **Machine Learning (CSE475):** Investigated Adversarial Attacks and developed Defense strategies to improve the robustness of deep learning models against malicious input perturbations.
- **Digital Image Processing (CSE438):** Designed a Self-Supervised Vision Transformer pipeline for automated Retinal Disease Detection from fundus images, reducing dependence on labeled data.

Publications

- **Md Sifatullah Sheikh**, Urmi Kirtonia, Nuzath Tabassum Arthi, Md Al-Imran.
  AI-Powered Deepfake Detection Using CNN and Vision Transformer Architectures.
  Accepted at the 6th International Conference on Big Data and Artificial Intelligence Problems (IBDAP 2025), Thailand.

Education

East West University *Jan 2022 – Jan 2026*
Bachelor of Science in Computer Science and Engineering
- **GPA:** 3.66/4.00 (Expected: 3.70)

Projects

Course Projects

Campus Event Management System *GitHub Repo*

- **Course:** CSE 302 – Database Systems
- Built a web app to manage campus events with role-based functionality (Admin, Student, Organizer).
- **Technologies:** PHP, MySQL, HTML, CSS, JavaScript

Online Food Delivery System (FoodieBite) *GitHub Repo*

- **Course:** CSE 347 – Computer Information and System Analysis
- Developed a user-friendly food ordering system with real-time tracking and backend optimization.
- **Technologies:** React Native, Node.js, Express.js, MongoDB

Bangladesh Railway Management System (BDRMS) *GitHub Repo*

- Designed a full-featured desktop app for train scheduling, ticketing, and live info.
- **Key Feature:** Intelligent timetable management to reduce delays.
- **Technologies:** Java, JavaFX, MySQL, Oracle

Capstone Project

An Integrated Deep Learning and Language Processing Framework for Medicinal Plant Identification and Ethnobotanical Description *Ongoing*

- **Goal:** Building a spaCy and Transformer-based NER system to automatically extract medicinal plant names, anatomical parts (e.g., leaf, root), and therapeutic uses from ethnobotanical texts.
- Collecting and annotating a high-quality multimodal dataset of 10,000-15,000 images of medicinal plants and textual records from diverse regions of Bangladesh, including Mymensingh, Sylhet, Chittagong, and BAU (Bangladesh Agricultural University).
- Developing a full NLP pipeline for knowledge extraction using Python, custom entity tagging (BIO scheme), and tools like Prodigy or Label Studio, with future deployment via an API or dashboard.
- **Technologies:** Python, spaCy, NLP, Custom Annotated Dataset, Regular Expressions.

Certifications & Achievements

- **Medha Lalon & Dean's List Scholarship** – Awarded for outstanding academic performance.
- **3rd Place – EWU National Robo-Fest 2024 (IT Olympiad)** – Recognized for excellence in tech innovation and problem solving.