Adnan Ahmad

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Skills

Languages: C/C++, Java, Python, SQL

Technologies & Tools: PyTorch, TensorFlow, Django, Git, VS Code, Linux, scikit-learn, MySQL

Work Experience

Shorborno Holdings Limited, Dhaka Aug 2024 - Feb 2025

Security Operations Center (SOC) Intern

- Gained foundational knowledge of SOC operations, incident response, and threat detection.
- Gained exposure to SOC workflows including alert triaging, threat intelligence lifecycle (STIX, TAXII, MITRE ATT&CK), and common incident types such as phishing, malware, and DDoS attacks.
- Developed understanding of host/network artifacts, hash values, IP/domain analysis, and log inspection methods relevant to incident detection.
- Explored tools and techniques in endpoint detection and response (CrowdStrike EDR), traffic analysis, threat hunting, and incident response planning.

TICON System Limited, Dhaka May 2024 - Jul 2024

Machine Learning Engineer Intern

- Developed a machine learning model to detect cricket shots from video input.
- Integrated the model into a RESTful API for efficient interaction between frontend and backend services.
- Python, OpenCV, TensorFlow, Django REST Framework

Education

Notre Dame College, Dhaka GPA: 5.00/5.00

Islamic University of Technology (IUT), Gazipur Jul 2021 - Sept 2025 (Expected)

B.Sc. in Computer Science and Engineering ***CGPA: 3.51/4 (Upto 7th Semester)***

Relevant Coursework: Object Oriented Programming, Data Structures and Algorithms, Machine Learning, Databases, Discrete Maths, Operating Systems, Computer Networks, Data Mining, Pattern Recognition

Project Work

- **CompanyCatcher:** Employs machine learning for job market analysis and web scraping to provide real-time job updates. Python, BeautifulSoup, Django, HTML, CSS.
- **IT Jobland:** An all-in-one platform for jobseekers, employers, and employees to interact and fulfill employment needs. HTML, CSS, JavaScript, Node.js, MySQL.
- **RhythmRider:** A music genre classification project where I implemented feature extraction from raw audio entirely from scratch, without relying on any libraries. Traditional machine learning algorithms were then applied to classify the music into genres based on the handcrafted features. Python, ML models (XGBoost, K-Nearest Neighbors, Support Vector Machines, Decision Trees).

Research Works (Ongoing)

- **Reducing Numeric Hallucination in Chart Summarization:** Modified existing LLM architectures with copy modules to reduce numeric hallucination in chart-to-text summary generation.
- **Dynamic LLM Compression:** Research on LLM architecture that dynamically adjusts computation per input, shrinking or expanding the model based on input complexity to improve inference efficiency.
- **Explainability analysis in SER:** Investigated the contribution of acoustic features in Speech Emotion Recognition(SER) using SHAP and LIME to interpret model predictions.
- **Multilingual Context Retention in LLMs:** Building a multilingual dataset to analyze whether LLMs suffer from mid-context loss. Proposing a KL-divergence-based auxiliary loss function to mitigate context degradation in the middle of long sequences.

Leadership & Activities

- **Instructor, Research-Driven Python and Machine Learning Workshop** — Conducted a hands-on workshop organized by Al Biruni Society of Scientific Studies, IUT, introducing participants to research-oriented Python programming and machine learning techniques.