Adiba Shaira

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Education

Stony Brook University, New York   Aug 2023 – Present
Ph.D. in Computer Science

- CGPA: 3.94

- Advisor: Prof. Shubham Jain, PiCASSo Lab

- Research Area: Health sensing and human performance analytics, focusing on wearable-sensor–based safety and prediction systems.

Bangladesh University of Engineering and Technology   Feb 2017 – May 2022
B.Sc. in Computer Science and Engineering, CGPA: 3.68/4.00

Research Experience

Research Assistant, PiCASSo Lab, SBU   2023 – Present

- **Wearable-based Detection of Muscle Failure Onset** (Submitted) – Designed and validated motion-derived metrics from single IMU sensors on 23 participants. Identified consistent trends in Lifting-to-Lowering Velocity Ratio (LLR), lifting steadiness, and struggle duration as reliable indicators of impending failure in bench press and overhead press.

- **LiftSafe: Human Performance Prediction** – Building predictive models to forecast strength training performance from IMU data. Aims to provide real-time, personalized safety feedback to reduce risk of injury.

Publications

Prottoy Saha, Md Shamiul Islam, Tasnim Rahman, **Adiba Shaira**, Kazi Noshin, Rezwana Reaz, Md Shamsuzzoha Bayzid. *Gene Tree Parsimony in the Presence of Gene Duplication, Loss, and Incomplete Lineage Sorting.* RECOMB International Workshop on Comparative Genomics, Springer Nature, pp. 110–128, Apr 2024.

Professional Experience

Research Assistant, Stony Brook University   2024 – Present
Teaching Assistant, Stony Brook University   2023 – 2024
Lecturer, United International University, Dhaka   2022 – 2023

Course Projects

Single-Device Prediction of Sleep Efficiency and Next-Day Mood (2024)
Global Disaster Insights: A Visual Journey(2024)
Corona in Bangladesh — Website (2020)
Healthway – Online Diagnostic and Consultation Center(2021)

Technical Skills

Languages: Python, Java, C/C++, SQL, JavaScript, LaTeX
ML/DL: PyTorch, TensorFlow, Keras, Scikit-learn
Data/Sensors: IMU data processing, Signal Processing, OpenCV, MATLAB
Tools: Git, Jupyter, Wireshark, Django, Bootstrap, MySQL, MongoDB

Awards & Leadership

First Runner Up – Ada Lovelace Datathon (BDOC 2021) – ML for Covid-19 impact analysis
Second Runner Up – Ada Lovelace Datathon (BDOC 2022) – Taxi demand prediction
Chairperson – IEEE Computer Society BUET Student Branch (2021–2022)