AHMAD AL ASAD

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LinkedIn | GitHub | Website

INTRODUCTION

I am enthusiastic about solving puzzles and experimenting with different problems. My strengths include programming using python and java. I am interested in researching in the field of learning algorithms. I am particularly interested in data-driven analysis and decision-making through the use of learning models. I plan to work on addressing real-world problems by discovering links and patterns in data and acting on the trends. I aim to conduct more data-driven research while continuing my studies for a Master's degree and eventually a Doctorate.

EDUCATION

BACHELOR OF SCIENCE: Computer Science and Engineering
Brac University | Dhaka, Bangladesh | 2022

- CGPA: 3.94 (Scale of 4.00)
- Thesis: “Predicting Peak Performance of a Cricket Player Using Machine Learning and Data Analytics”
- Published two articles from the thesis research
- Worked 15 hours a week as a Student Tutor
- Included in the Dean’s List for Spring 2022 semester and in the Vice Chancellor’s List for Spring 2019, 2020, 2021, Summer 2020, 2021, 2022, Fall 2019, 2020, 2021 semesters
- Received Scholarship based on previous Academic Results for five semesters
- Received Merit Scholarship based on BracU Academic Results for six semesters

EDEXCEL IAL:
Maple Leaf International School | Dhaka, Bangladesh | 2018

- 4A Grades (3A*)
- Graduated 4th in the class of 2018

EDEXCEL INTERNATIONAL GCSE:
Maple Leaf International School | Dhaka, Bangladesh | 2016

- 8A Grades (8A*)
- Scored World Highest in Further Pure Mathematics
- Scored World Highest in Mathematics A

RESEARCH EXPERIENCE

UNDERGRADUATE THESIS | 2021 - 2022

- Examined the performance of a cricket player with respect to various external factors
- Collected match statistics data from before, during and after the game

- Conducted a detailed analysis of the ball-by-ball commentary during the game
- Constructed a formula for control and generated a new parameter called Impact
- Critiqued the post-game commentary from match statistics to determine new features
- Compiled all the features to create a corpus dataset
- Implemented machine learning algorithms to predict the impact
- Presented two articles in conferences

PROJECT FOR APPLIED DATA SCIENCE COURSE | 2022

- Reviewed the possibility of Parkinson's Disease from voice measurements
- Tested the biomedical voice measurements from a UCI machine learning repository dataset
- Worked with classification algorithms such as kNN, Logistic Regression, SVM Classifier, Decision Tree, Random Forest and XGBoost Classifier
- Examined the trained models focusing on False Negatives
- Evaluated the performance of the trained models based on the lowest false negatives

TEACHING EXPERIENCE

LECTURER [CONTRACTUAL]

Department of Computer Science and Engineering, Brac University | 2023 – Present

- Courses Tutored: Programming Language I Lab, Data Structures Lab, Computer Networks Lab
- Provided lectures on the basics of programming and data structures
- Coached students in building complete network infrastructure projects
- Developed project topics and evaluated students' understanding of networks
- Enabled greater studying environment by encouraging more hands-on practical experience
- Coordinated between hardware and software simulations for more informed learning

STUDENT TUTOR

Department of Computer Science and Engineering, Brac University | 2021 – 2022

- Courses Tutored: Programming Language I, Programming Language II, Data Structures, Algorithms
- Guided students to understand course materials better; Conducted tutorial classes
- Evaluated quizzes and assignments; Assisted lab instructors
- Developed strategies to improve student engagement; Set goals to facilitate learning

TECHNICAL SKILLS

- Corpus Data Collection
- Data Visualization and Analytics
- LaTeX, Spreadsheet
- Learning Algorithms and Models
- Python, Java, HTML, PHP, CSS
- Critical Thinking, Problem Solving

PUBLICATIONS

CONFERENCE:

1. **A. A. Asad**, T. Ashraf, I. Z. Chowdhury, A. Azam, K. N. Anwar, M. G. R. Alam & T. Rahman, "Measuring Control of a Bowler to Predict Impact in ODI Cricket Using Classification Models," 2022 7th International Conference on Intelligent Informatics and Biomedical Science (ICIIBMS), 2022, pp. 329-334, doi: 10.1109/ICIIBMS55689.2022.9971630. [Best Paper Award Winner]

2. **A. A. Asad**, K. N. Anwar, I. Z. Chowdhury, A. Azam, T. Ashraf and T. Rahman, "Impact of a Batter in ODI Cricket Implementing Regression Models from Match Commentary," 2022 IEEE Asia-Pacific Conference on Computer Science and Data Engineering (CSDE), Gold Coast, Australia, 2022, pp. 1-6, doi: 10.1109/CSDE56538.2022.10089357.

PROJECTS AND RESEARCHES

1. **Predicting Peak Performance of a Cricket Player Using Machine Learning and Data Analytics** | Undergraduate Thesis, 2021 – 2022
   - Analyzed commentary from match statistics and formulated new parameters to generate corpus dataset; Implemented regression and classification algorithms and compared performance
   - Corpus dataset: https://tinyurl.com/odi-batter-dataset; https://tinyurl.com/odi-bowler-dataset;
2. **Prediction of Parkinson's Disease from Voice Measurements using Machine Learning Classification Algorithms** | 2022
   - Used voice signals dataset from UCI machine learning repository and implemented machine learning to make models for detecting Parkinson's disease; Model performance was based on having low false negatives from the confusion matrix
   - Preprint: http://dx.doi.org/10.13140/RG.2.2.11742.61761
3. **Tele Net App Service** | 2022
   - Networking system using six intermediary devices as branches and end devices; IP assignment using VLSM based on host requirement; Simulated using Cisco Packet Tracer
   - Source: https://github.com/ExGranite/tele-net-app-service
4. **Art Gallery Management** | 2022
   - System analysis and design using use case diagram, activity diagram, sequence diagram, data flow diagram and windows navigation diagram
   - Source: https://github.com/ExGranite/ArtGalleryManagement
5. **Smart Trash Can** | 2022
   - Smart trash can system using HC-SR04 ultrasonic sensor, active infrared obstacle sensor and Arduino Uno R3; ultrasonic sensor determines the amount of available space inside and the infrared sensor automates the opening of the trash can; Simulated using Proteus and LabVIEW
   - Source: https://github.com/ExGranite/smart-trash-can
6. **Data Logger** | 2022
   - Data logger system using DHT11 and Arduino Uno R3; DHT11 reads the temperature and humidity readings and gives a visual representation; Simulated using Proteus and LabVIEW
   - Source: https://github.com/ExGranite/data-logger
7. **Online Food Ordering System** | 2021
   - A software engineering project based on Laravel 8; Languages: php, html, css, javascript
   - Source: https://github.com/ExGranite/OnlineFoodOrderingSystem
8. **Line Follower Robot** | 2021
   - PID implemented line-following robot using an infrared sensor to read a black line and follow it; Simulated using Webots from Cyberbotics; Language: python
   - Source: https://github.com/ExGranite/line-follower
9. **Obstacle Avoiding Robot** | 2021
   - Obstacle-avoiding and object-detection robot using distance sensors and camera sensors; Simulated using Webots from cyberbotics; Language: python
   - Source: https://github.com/ExGranite/obstacle-avoiding

CERTIFICATES AND VOLUNTEER EXPERIENCE

1. Best Paper Award Winner, awarded by ICIIBMS 2022
   - Awarded for an article titled "Measuring Control of a Bowler to Predict Impact in ODI Cricket Using Classification Models"
2. Director of Finance in Brac University Chess Club, 2021
   - Served as a Director of Finance in Brac University Chess Club for 1 year after being promoted from an Executive
3. Executive of Training in Brac University Chess Club, 2020
   - Served as an Executive of Training and Research in Brac University Chess Club for 1 year
4. Certificate of High Achievement by EDEXCEL, 2018
   - Awarded for 4'A' Grades (3A*) in IAL, 2018
5. Participated in the Regional Round of 8th Bangladesh Physics Olympiad, 2018
6. Participated in the Preliminary Round of 8th Bangladesh Chemistry Olympiad, 2017
7. Volunteered for Hunger Action 2017 by Durnibar Foundation, 2017
   - Contributed towards lending a helping hand to end childhood hunger in Bangladesh
8. Participated in Inspire Meetup 2.0 by Durnibar Foundation, 2017
   - It is an open platform discussion on youth activism organized by Durnibar Foundation
9. Certificate of High Achievement by EDEXCEL, 2016
   - Awarded or 8'A' Grades (8A*) in International GCSE, 2016
   - Awarded for obtaining World Highest in International GCSE (Further Pure Mathematics and Mathematics A), 2016