Mohammad Fahim Shahriar

K-62/A, Kuril Chowrastha, Kuril, Dhaka, Bangladesh
+8801757501506
✉ *fahimmfs@gmail.com*
🖥 *mfshahriar.github.io/resume*
in *mfshahriar*
 mfshahriar

Area of Interest

Machine Learning, Deep Learning, Computer Vision, Natural Language Processing, Cognitive Science, Brain Computer Interface.

Work

February 2021 - May 2021
Teaching Assistant (Internship), *American International University Bangladesh (AIUB), Courses: Introduction to Database, Operating Systems.*
Performed academic responsibilities focused on teaching and testing students capability and understanding.
- Simplify complex computer science topics into digestible information, and deliver to students in an approachable and relatable way;
- Provide additional support and resources to tackle complex topics;
- Prepare assignments, class tests, lab quizzes, and perform evaluation.

Education

January 2018 - September 2021
B.SC in Computer Science and Engineering (CSE), *American International University Bangladesh (AIUB).*
CGPA: 3.98/4.00; Thesis: *Early Detection of Alzheimer's Disease Using Deep Learning.*
- **Summa Cum Laude** award candidate;
- One of the seven students to receive **Academic Excellence Scholarship** through scholarship exam from first semester.
- **Dean's List** Award Holder (Two Times).

Standardized Tests

10/17/2022
Test of English as a Foreign Language (TOEFL).
Score: 112/120 (Reading: 30, Listening: 26, Speaking: 27, Writing: 29)

Thesis and Relevant Course Projects

Thesis
Early Detection of Alzheimer's Disease Using Deep Learning ⬀
Here, a CNN model is deployed to detect Alzheimer's Disease in earlier stages. To achieve this, an sMRI dataset with five classes is used. CNN provided the highest accuracy (79%) compared to other algorithms (ANN, RF, SVM, and KNN). The results of the three class and binary classifications were similar to existing research. In the second part, each of the 5 algorithms is compared using their precision and recall score for each specific class for three different types of classification (5-class, 3-class, binary). This is done to determine which model is better at detecting a particular class for a certain type of classification when we care about the true positive and false positive rates.

Computer Vision and Pattern Recognition	**Project:Face-Mask Detection using CNN** ⧉ Using the Haar Cascade classifier and CNN, this project checks whether an individual has worn a mask or not. It uses the webcam for input. The model distinguishes these two classes and outputs a red or green square depending on the class. This project utilizes Python in jupyter notebook, and libraries such as Keras, OpenCV, scikit-learn, and NumPy have been used to design its functionalities.
Data Warehouse and Data Mining	**Project Report: Reasoning Behind Choosing a Particular Algorithm for a Certain Dataset** ⧉ Here, KNN is chosen among KNN, Naive Bayes, and Decision Trees for building a model using a stroke prediction dataset with two classes. This is because the problem is a binary classification problem with a low-dimensionality dataset. So, it is assumed KNN will perform best. After testing in weka, KNN indeed provided the best accuracy, supporting the initial hypothesis.
Research Methodology	**Project Report: Efficiency for IoT Based Smart Irrigation System** ⧉ Here, in the first part, a project proposal was made for an "IoT-based Smart Irrigation System" that will be efficient in terms of water usage and power consumption and empower the rural villagers of Bangladesh. In the second part, a systematic literature review is prepared to document and structurize existing findings and generate key research questions that need resolving to ensure project success.
Programming in Python	**Project:Visual Path finder** ⧉ Here, the program reads a text file and creates a 2D maze. The user determines the starting and ending points, and then the program will find the shortest path between them using the chosen search algorithm and animate that algorithm on that maze as it searches for the end node. After the searching nodes reach the end node, the shortest path is visualized.
Artificial Intelligence and Expert Systems	This course dealt with basic AI principles, approaches, and concepts such as agents, environments, knowledge, reasoning, search techniques such as informed, uninformed, and adversarial search, CSP, the genetic algorithm, probability theory, and neural networks.

Technical Skills

Frameworks	TensorFlow, Numpy, Keras, Scikit-learn, Matplotlib, Pandas, Tkinter	Tools:	LaTeX,Trello, Mendeley, Turnitin, Quillbot, Weka, Proteus, MS Office
Languages	Python, c++, c#, HTML, CSS, PHP, JavaScript, MATLAB, SQL	Others:	Typing-speed: 85WPM

Language Proficiency

Bangla	Native Speaker
English	Fluent Proficient Speaker

References

DR. S. M. Hasan Mahmud
Thesis Supervisor
Assistant Professor
Department of Computer Science, AIUB
✉ hasan.swe@aiub.edu
☎ +8801722-418230

Md. Mehedi Hassan Onik
Internship Supervisor
Assistant Professor
Department of Computer Science, AIUB
✉ mehedi.onik@aiub.edu
☎ +8801719-612177