

Md Javedul Ferdous

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Research Interest

Human Computer Interaction, Machine Learning, Dialog System

Technical Skills

Language:	Python, JavaScript, Html, Php, Java, R, ASP.net,	Specializations:	Data Engineering on Google Cloud Platform,
Platform:	Windows, Mac, Linux		Deeplearning.ai, Machine Learning with TensorFlow on Google
Deep learning:	Weka, OpenCV, Keras, TensorFlow, Scikit-learn		Cloud Platform, Machine Learning by UW
Database:	SQL, Protégé, RDF	Other Tools:	Latex, Open refine, Beamer
Visualization:	Observable, Tableau, Vega-lite, D3		

Work Experience

Graduate Teaching Assistant	<i>Old Dominion University, VA, USA</i>	Fall 2019 – Spr 2024
<ul style="list-style-type: none">Prepared lecture content, quiz, assignment; mentored and guided 40+ students in 3 sections of CS115.Conducted 4 hours of office hours per week to clarify students in understanding lectures and solving problems.Graded and assessed all kinds of exams and assignments.Instructed students and present in the lab of 40+ students solving python programming-related problems.		
Graduate Research Assistant	<i>Old Dominion University, VA, USA</i>	Summer 2020
<ul style="list-style-type: none">Researched with a team of 4 researchers from Stonybrook University.Build a dataset by selecting 15 desktop applications and manually.Conducted quantitative and qualitative research, collected and analyzed data.Implemented a java-based solution on android towards online videos by using motion gestures.		
Undergraduate Teaching Assistant	<i>East West University, Bangladesh</i>	Fall 2014
<ul style="list-style-type: none">Presented all course duties; taught, guided office hours, graded quizzes, and assessed laboratory reports.Motivated and trained 60+ students with problem and homework assignments, and proctored examinations.		

Projects

Behavior Analysis (2020) – Tool: numpy, pandas, time, matplotlib, sklearn, seaborn.
<ul style="list-style-type: none">Analyzed 22 classes with 32,593 poorly performed students to infer the origin and characteristics of and gained 94% accuracy.
Kaggle TREC-COVID Re-rank (2021) - Tool: pandas, elasticsearch, tensorflow, tensorflow_hub, SciBERT model.
<ul style="list-style-type: none">Developed by using Elasticsearch and implemented a re-rank system using a transformer-based model such as SciBERT to improve the retrieval performance.Tested and predicted the system and achieved 86% precision for the top 5 documents.
Project DMV (2021) – Tool: node.js, npm, ganache-cli, remix browser, web3.js, smart contract.
<ul style="list-style-type: none">Developed a system that provides 9 extensive services of Virginia Department of Motor Vehicles using of blockchain technology.
Speech2text (2020) – Tool: PyAudio, spacy, pyttsx, speech_recognition.
<ul style="list-style-type: none">Designed to assist non-sighted people in online shopping experience by the help of dialog-based system and created 209 websites of dataset.
3D alignment by using Chimera (2020) - Tool: Chimera, Python, numpy, biopython, Anaconda.
<ul style="list-style-type: none">Experimented the 3D alignment of protein secondary structures and structured a program to align 2 helices of proteins using the central axis.

Publications

- Md Javedul Ferdous**, Hae-Na Lee, Sampath Jayarathna, and Vikas Ashok. "Enabling Efficient Web Data-Record Interaction for People with Visual Impairments via Proxy Interfaces." ACM Transactions on Interactive Intelligent Systems, 2023.
- Uckun, Utku, Rohan Tumkur Suresh, **Md Javedul Ferdous**, Xiaojun Bi, I. V. Ramakrishnan, and Vikas Ashok. "Taming User-Interface Heterogeneity with Uniform Overlays for Blind Users." *30th ACM Conference on User Modeling, Adaptation and Personalization*, 2022.
- Md Javedul Ferdous**, Hae-Na Lee, Sampath Jayarathna & Vikas Ashok. "InSupport: Proxy Interface for Enabling Efficient Non- Visual Interaction with Web Data Records", *27th International Conference on Intelligent User Interfaces*, 2022.
- Md Javedul Ferdous**, Sami Uddin, and Vikas Ashok. "Semantic table-of-contents for efficient web screen reading.", *36th Annual ACM Symposium on Applied Computing*, 2021.

Education

PhD in Computer Science	Fall 2019 – Current
<i>Old Dominion University, VA, USA</i>	
Master of Science in Computer Science	Summer 2017 – Fall 2018
<i>American International University-Bangladesh</i>	
Bachelor of Science in Computer Science	Spring 2011 – Spring 2015
<i>East West University, Bangladesh</i>	

Academic Honors and Awards

- Dr. Hussein Abdel-Wahab Memorial graduate fellowship
- BASIS Web Application Development scholarship, BASIS Institute of Technology and Management, Dhaka, Bangladesh
- Bangladesh Mathematical Olympiad, First Runners Up Divisional, Bangladesh
- Government merit scholarship – Grade 8 – Junior Scholarship, Comilla Division, Bangladesh