Safia Fatima

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EDUCATION

AI for Medicine Specialization Coursera — August 2020-To Date

M.Sc. Computer Science FAST NUCES, Pakistan – GPA: 3.44/4.00 — August 2016-January 2019

B.Sc. Computer Science FAST NUCES, Pakistan – GPA: 3.15/4.00 — August 2012-May 2016

F.Sc. Computer Science Pakistan – Marks: 892/1100 — August 2010-May 2012

PUBLICATIONS

Evaluation of Multi-Modal MRI Images for Brain Tumor Segmentation (Published) — February 2020
- **Conference:** ICET'19 The 15th International Conference on Emerging Technologies, Pakistan
- **Presentation Schedule:** Peshawar, Pakistan, December 3rd, 2019

SUPERVISION OF UNDERGRAD PROJECTS

DeepFake Video Detection (In Progress) — September 2020-To Date
- **Tools/Libraries**: DCGAN, CNN, Python, Keras, TensorFlow, streamlit

Stock Market Data Analysis and Prediction using Time Series (In Progress) — September 2020-To Date
- **Tools/Libraries:** Arima, LSTM, Python, Keras

RESEARCH PROJECTS

Real time Localization of Glioblastomas using Multi Modal MRI (In Progress) — February 2021-To Date
- Applied for the research grant at ORIC FAST NUCES, Pakistan.

Evaluation of Multi-Modal Brain MRI Images for the Localization of Glioblastomas (MSCS Thesis) — January 2018-January 2019
- A method that incorporates a deep learning-based model U-Net to address brain tumor localization.
- Utilizing BRATS2015 as the primary dataset for Brain MRI Images.
- Using the same architecture for the evaluation of individual modalities.

WORK EXPERIENCE

FAST-NUCES, Peshawar – Lecturer — August 2020-To Date
- Promoted under Computer Science Department as a Lecturer.
- Teaching courses including software design & analysis and object-oriented programing
- Supervising CS undergraduate projects in the fields of computer vision, deep learning, and time series analysis.

FAST-NUCES, Peshawar – Lab Instructor — January 2018–July 2020
- Worked under Computer Science Department as a Lab Instructor.
- Involved in teaching courses including Introduction to Computing, Databases, and Digital Logic Design.
- Gained skills in SQL, Python, and C++ programming languages.

KEY PROJECTS

Bron Kerbosch Algorithm (Github) — December 2017
- Code for implementing the BK algorithm to show all maximal cliques and one maximum clique from within set of maximal cliques.
- Implemented in C language using Graph Theory concepts.

Gene Ontology Classification of Protein Sequence Using Fully Connected Neural Networks (GitHub) — January 2018
- Annotation of protein sequences with gene ontology (GO) classes using deep neural networks.
- Experimented on yeast dataset using python and Tensorflow.

Data Dissemination for Bioinformatics: An Agent Migration Approach (FYP-BSCS) — May 2016
- An agent migration approach to fill in the retrieving remote data in a low-quality network environment, especially unstable mobile computing environments and do the client-side computation on the server end.
- User will be able to see his/her activity graphically visualized logs and statistics on their smartphone screen.
- The proposed approach can also overcome the resource limitation of mobile terminals and release mobile users from keeping online persistently.

TECHINCAL SKILLS

Programming Languages: JAVA, C++/C, Python, JavaScript, Bash

Machine Learning: Supervised/Unsupervised Learning, Generative Models, Deep Learning, Natural Language Processing

Analytics: Jupyter, SQL, Excel

Tools/Libraries: PyTorch, OpenCV, Tensorflow, Keras, Sklearn, Git, CUDA, Flask

KEY ACHIEVEMENTS & AWARDS

Faculty Head ACM-Student Chapter - NUCES, Pakistan — January 2020-To Date

2x Bronze Medal - NUCES, Pakistan — August 2012-May 2016

Dean's List Certification Holder - NUCES, Pakistan — August 2012-May 2016

Vice-chairperson and International Member of ACM Student Chapter - NUCES, Pakistan — August 2014-May 2016