Hafiz Ahmad Hassan

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Summary

Artificial intelligence enthusiast with 2 years of experience as Software Developer and research assistant in domain of Computer Vision and Deep learning .Studying Masters in Bioinformatics at university of Verona and carrying out research in semi-supervised learning.

Experience

Research Assistant - link

FAST - NUCES • Lahore, Punjabl

07/2018 - 01/2019

I was the research assistant in School of Management for one of the researcher. I developed augmented reality-based application for children learning purpose in mobile phone using Unity 3D, as well as the marketing research. It was a great learning experience to apply my learning in the university.

Software Developer -Link

 FAST - NUCES - Lahore, Punjab

02/2019 - 08/2019

I used genetic algorithms to develop a clash-free automated examination timetable for my university which is NP (nondeterministic polynomial-time) hardness problem. I was having three constraints to solve direct clashes such as:

1. No student should have more than one examination at the same time (Direct Clash).
2. For each slot only less than 400 students has to be scheduled for the examinations.
3. Resolving back-to-back examinations issue.

Research Project Lead -Link

FAST-NUCES - Lahore, Punjab

04/2018 - 08/2019

For my final year project (FYP), I worked on a research-based project "Skin Lesion Detection and Classification" using deep-learning techniques. I also published a research paper on this topic which was presented in Malaysia at ICGHITSouth Korea 2019 Conference.

Skills

Programming Languages : C++, C# , Java, Python, R, SQL, MYSQL, OOP , PSQL , MATLAB , Assembly , XML ,Xpath ,XQUERY

Web-Programming : HTML, CSS, JAVA-Script JSP,AJAX,Web Services (REST) & Security (OWASP)

Libraries : OpenCv , Numpy , Pandas, PIL , TensorFlow , Keras , Pytorch , Matplotlib, Scikit-learn

IDE : SQL Management Studio, Visual Studio , Netbeans ,Eclipse, JetBeans , Jupyter-notebook, Pycharm, Google Colab

Tomcat Apache , Git , MVC , .NET framework , Linux

Expertise: Software Development, Web Development, Database, Desktop Application Development, Python Development, Machine Learning System Development

Education

MS Bioinformatics

University of Verona • Verona, Veneto

10/2019- Continue

Current Marks 26.7/30, studying under fully funded scholarship.

Bachelors of Science in Computer Science

FAST - NUCES • Lahore, Punjab

08/2019

I did my Bachelor's Degree in this prestigious (Top Ranked) IT university of my country, which enabled me to acquire different skills in programming

languages and application developments aligned with my skills

Machine Learning and Deep Learning Course Offered by Jermy (fast.ai)

I have done two courses offered by Jermy Pytorch framework to build state of the art deep learning models , tuning hyperparameter and feature engineering.

Certifications : Following Certifications I have completed so far offered by prestegious universities .

Deeplearning : 5 Course Sepecialization - Link
    1. Neural Networks and Deep Learning
    2 Improving Neural Networks and Hyperparameter Optimization
    3.Structuring Machine Learning Projects
    4. Convolutional Neural Networks
    5. Sequence Models

Harvard
    1.PH525.5x: Introduction to Bioconductor
    2.PH525.1x: Statistics and R
    3.PH125.1x: Data Science: R Basics

John Hopkin University
    1.Genomic Data Science with Galaxy
    2.Introduction to Genomic Technologies
    3.Python for Genomic Data Science

University of California
    1.Genes Comparison
    2.Algorithmic Toolbox

Stanford
    Unified Modeling Languages

Publication
Title : Skin Lesion Classification Using Deep Learning Techniques
Conference : Green and Human Information Technology South Korea 2019   (Link)

Projects/Practical Work
Project codes can be found on github Repository Section (link)

Deep Learning / Machine Learning

Deep Learning Assignments by Andrew Ng (Link)- 2020
-Currently I am uploading customized assignments with modified problem statements by me.

House Price Prediction (Link) – 2020
-Using Random Forest, implemented with python (Scikit-Learn , Pandas , NumPy) Libraries

Timetable Scheduling Using NSGA-II -2018-2019
-This is thesis project for MS(CS).I collaborated with a student who was working on optimizing UniTime i.e open source tool for generation of clash free timetable for examination. The Second phase was Implementation of timetable using MOEA framework.
    Phase I :   XML Configuration for Unitime -link
    Phase II : MOEA Framework for Timetable Scheduling - Link

Skin Lesion Detection and Classification Using Deep Learning Techniques (**Link**) 2018-2019.
-This is my final year project of Bachelors Degree. It consists of two phases classification and detection for classification RNN and Convolution Neural Network is implemented. In Second phase I worked on detection of lesion in images using CNN and U-Nets.

Human Fall Detection (Link)– 2018

-Artificial Intelligence project this system was developed using Recurrent Neural Network.

MNIST Digit Classifier (Link) -2018

-Using MATLAB - Perceptron from Scratch was implemented to classify MNIST dataset

R-Programming

R-Programming for Genomic Data Science (University Course-link , Harvard Course - link) -2020

- I have uploaded lab exercises solution in which Graphics, Network, Bioconductor, Enrichment Analysis was implemented.

JAVA

Compiler Construction Using JAVA – 2019 (link)

Complete Compiler Construction code was implemented in 4 different phases as course project

Sales Management System – 2017 (link)

-During Object Oriented Design& Analysis Course (Desktop Application using Java, MYSQL ,Java-GUI) this system was developed for a Store in which records and different reports were generated Complete Design and Analysis report is attached.

Minesweeper Game -2017 (link)

This was a lab project of object oriented design and Analysis lab with Game state was stored in Database at every move.

Airline Management System Web Application – 2017 (link)

-Complete Web Application for Airline management system was developed as Web Programming Course Project HTML, CSS, JAVA-Script JSP,AJAX,Web Services (REST) & Security (OWASP) was used. MVC-Framework was used.

Computer Vision

Optical Character Recognition -2018

-Developed as Computer Vision course project using matlab programming language

Assignment -2018- link

Code for 1. Histogram Equalization; 2. Histogram Specification; 3. Pseudo coloring in: a. Spatial domain b. Frequency domain was implemented

E-Waiter Android App – 2018

-Software Engineering course project this app was developed by integrating different modules designed by a specific team.

Children Learning App – 2018

-Human Computer Interface course project team consisted of four persons, developed GUI for Learning app for children of age between 2 to 5.

Data Mining / Database

Search Engine -2018 (link)

-Information Retrieval course project a small search engine was developed using python language. It was consisted of three phases

Database Lab Project 2017

-School Management system was developed using C# , SQL, .Net Framework was used

Database Labs Exercises Solution - 2017

Data Structure 2016

-Different data structures programs were developed including , BST, Huffman Encoding, Dictionary Implementation using Bloom Filters ,Skiplist using C++ etc.

Games

Snake and Ladder & Candy Crush Game 2015

- For Computer Programming Project these two games was developed using Object Oriented Programming in C++.

Chess & Bouncing Game -2015

-These games were the first project for Introduction to Computing Course. It was developed using C++ language.

Links

Github   Publication   Stackoverflow   Portfolio

LinkedIn   Certificates