SABAHAT IJAZ

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▷ Education

BS (CS) Computer Science
2020, FAST NUCES, Peshawar.

Bachelor's in Computer Science from FAST NUCES - CGPA: 3.41
Some Major Courses: Data Structures A-, Design & Analysis of Algorithms A+, Computer Networks A, Operating Systems A-, Artificial Intelligence B+, Machine Learning A-, Computer Modeling and Simulation. BS Thesis Title: Pathological Myopia Detection Using Fundus Images

▷ AwardsHonors

Deans of Honor
Honor

National University of Computer & Emerging Sciences
Awarded with Deans of Honor in Fourth, Fifth and Seventh semester

Gold Medal
Award

National University of Computer & Emerging Sciences
Achieved Gold Medal (Summa Cum Laude) in the Fourth semester

Silver Medal
Award

National University of Computer & Emerging Sciences
Achieved Silver Medal (Magna cum Laude) in Fifth Semester and in BS overall

Bronze Medal
Award

National University of Computer & Emerging Sciences
Achieved 4 Bronze (cum laude) Medals in First, Second, Third and Seventh Semester

▷ Experience

Team Lead and Data Scientist
Odyssey Solutions
Augist, 2022 -Present

Team Lead
Developed company's product named Y-Hat. It is time series forecasting tool. Its an automated tool which gets the data and performs all data prepossessing, feature engineering, feature selection and model training. It has a deployment feature, where user can deploy the best performing model with just one click. It has many more features.

Data Science Engineer
Odyssey Solutions
November, 2021 -July 2022

Data Scientist
Worked on company's Product and POC's. Developed POC on Crypto price forecast, POC for Power Price Forecast. Worked on product to automate Artificial intelligence process of machine learning in classification, regression and time series

Machine Learning Engineer
Ecologix US
February, 2021 - Octoober, 2021

ML-Engineer
Worked on Firm's internal Product and out sourced Projects, worked on **Distributed Computing and Distributed File Storage**, Time Series Prediction Problem, Numenta technology of Hierarchical Temporal Memory, managed the Ebay Hierarchical system in graph databases, worked on live video stream analyzation.

National College of Business Administration and Economics Lahore, Pakistan
January, 2021 - June 2021

Lecturer
Taught Web Programming to BSCS students, worked as a Visiting Faculty.

FAST National University of Computer and Emerging Sciences, Peshawar
August 2020 - December 2020.

Lab Instructor-Computer Science
Taught Computer Networks and Programming Fundamentals labs to BS level Students.

▷ Skills

Machine Learning / Deep Learning	Classification, Regression, Time Series Forecating and Analysis, Anomaly Detection, Computer Vision, Natural Language Processing, Graph ML.
Image Processing	Experience in Object Detection, Object Tracking, Semantic Segmentation, Image Reconstruction, Texture Analysis Techniques Some Techniques worked on Oriented and Rotated BRIEF (ORB), Scale Invariant Feature Extraction (SIFT), Grey-Level Co-occurrence Matrices (GLCM), Gabor-Filters, Harris Corner Detection Techniques, Hessian Laplacian Feature Detector, HAAR Descriptors. Hough Line Transformation, Hough Circle Transformation, Image segmentation using Watershed Algorithm. Live Video Stream Analyzation. Worked on OpenCV, SimpleTK, Pillow, Matplotlib, SciPy, Scikit-Image
Time-Series Analysis and Forecasting	LSTM, AR, MA, ARMA, ARIMA, SARIMA, SARIMAX, Hybrid SARIMAX-LSTM, Encoder-Decoder LSTM, MRC-LSTM, NeuralProphet, NHiTs, LGBM, Prophet LGBM, Transformer, Prophet Transformer, VAR, NBEATS, Prophet NBEATS
Programming Languages	Python, C/C++
Web Programming	HTML5, CSS3, PHP, JavaScript, JSON, AJAX, SQL. Worked on tools and frameworks like WordPress, Reactjs,ReactStrap.
Database	Graph Database: Neo4J Cypher Query Language, Relational Databases: MySQL, Maria DB.
Tools/Framework	Tensorflow, Keras, Sci-kit Learn, Numpy, Pandas, Darts, Matplotlib, Seaborn, LaTeX, PyCharm, Neo4J, Jenkins, SublimeText, Visual Studio Code, IntellijIdea,NetLogo Cisco Packet Tracer, REACTJS, Clickup
General	MS. Office, All versions of Windows, LINUX.

▷ Projects

Y-Hat
November 2021-Present
Odyssey Solutions)

A plat-form for automating machine learning process for time series analysis and forecasting. Include modules for Data preprocessing, feature engineering, feature selection, modules for data visualization and Analysis. includes models for time series analysis and forcasting like LSTM , SARIMAX and Hybrid SARIMAX-LSTM and more.
Tools/Technology: Python, FLASK, Flassger, Postgress, REACTJS, ETL, AWS, Jenkins, Logger, Pandas, Numpy, Vaex

Power Price POC
March 2022-July 2022
Odyssey Solutions)

Developed POC for Power Price forecasting. Multivariate and Multi-Step Forecast problem. Developed models that forecast price for upto 1 year. Models forecasted next 24 hours power price with more than 90-percent accuracy. Worked on Encoder-Decoder LSTM , Neural Prophet and SARIMAX and more
Tools/Technology: Python, FLASK, Flassger, Logger, Pandas, Numpy

Crypto POC
Febraury 2022-May 2022
Odyssey Solutions)

Developed POC for crypto currencies price forecasting. Focused on Bitcoin and Ethereum. Multivariate and Multi-Step Forecast problem. Developed models that forecast price for upto 1 year. Developed Pipeline that gets updated data from online and updated model on daily basis on start of crypto market. Models forecasted upto 1 month with more than 90-percent accuracy. Worked on Encoder-Decoder LSTM and SARIMAX
Tools/Technology: Python, FLASK, Flassger, Logger, Pandas, Numpy

Big Data Storage and Analysis
August 2021-October 2021
Ecologix)

Stored Big data in Hadoop HDFS system and used Spark to query data. Stored Big data through Hive and used Spark to query data. Used Hive with HBase to overcome latency issue. Ingested Data into HDFS through Flume. Used PigLatin to query data.
Tools/Technology: Hadoop (HDFS and MapReduce), Spark, Hive

NiHA
February 2021-October 2021
Ecologix

Automated Listing work, Purchase and Sale of Ebay. Automated customer handling. Automated the process of purchasing product from a vendor on Ebay and adding product to owners or clients vendor page. Automated the process of analyzing which product or category is going to catch up the market.
Tools/Technology: Python, c, CQL, Neo4J, Silinium, Beautiful Soap4

Time Series Prediction and Anomaly Detection
July 2021-July 2021
Ecologix

Used HTM model proposed by Numenta for Time Series and Anomaly Prediction. Used this technique for stock market trend prediction and trend prediction on E-Commerce Websites.
Tools/Technology: Machine Learning/Python, Linux, ReactJS, FLASK.

Social Media Sentiment Analysis
July 2021-August 2021
Ecologix

Used textBlob, Transformers and LSTM to analyse sentiments in data scrapped from Twitter, Reddit, News and Youtube. Managed all data in Hadoop Ecosystem.
Tools/Technology: Machine Learning/Python, Hadoop,Natural Language Processing, Web-Scrapping, Linux.

Ebay Hierarchy Mapping in Group Dataase Node4J
February 2021-April 2021
Ecologix

Scrapped and mapped all the hierarchical data of Ebay in Neo4J Graph Database. Part of Firms Product.
Tools/Technology: Python, c, CQL, Neo4J

Video Stream Analyzation
February 2021
Ecologix

Extracted 4 sides of product from image to automate listing work.
Tools: Used Image processing Techniques for analyzing products similar to title, and detected defects in product using image.

Pathological Myopia Detection Using Fundus Images
(FINAL YEAR PROJECT)

Detected Pathological Myopia from Fundus Images by using image processing region of interest extraction techniques and U-Net model for image segmentation, extracted features using ORB, GLCM. Classified the images into Normal, Highly-Myopic and Pathologically Myopic using Support Vector Machine with the Accuracy of 92%. Implemented back-end using Python. Front end is developed using python tkinter. Dataset was taken from: https://palm.grand-challenge.org/

Hand Written Digit Recognition Using CNN
(7th Semester Project)

https://github.com/sabahatijaz/Hand_Written_Digit_Recognition_Using_CNN Detected the hand written Digit from 0-9. Trained the Convolutional Neural Networks (CNN) for detecting and predicting the digit. MNIST dataset was used with 60,000 training samples and 10,000 testing samples. Got the Accuracy of 99.15%

Sentiment Analysis
(6th Semester Project)

https://github.com/sabahatijaz/Sentiment_Analysis Analyzed the Sentiments of writer by negative and positive words used in his/her writing. NLTK Naïve Bayes Classifier was used to analyse the sentiments.

▷ References

Dr. Wajahat Mahmood Qazi
Associate Professor, COMSAT University Islamabad, Lahore Campus

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Relationship: Team Head

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