Dawood Sarfraz

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EXPERIENCE

Research Assistant **June 2024 – Sep 2024**
Machine Learning Engineer *Islamabad, Pakistan*

- Collaborated with master's students from LUMS and NUST in the medical field.
- Worked on a research paper classifying skin cancer using CNN, ShuffleNet, and NasNet Models.
- Gained experience in medical data processing and deep learning architectures.

Anonymous Tree **July 2023 – Aug 2023**
Machine Learning Engineer *Karachi, Pakistan*

- Worked as a Machine Learning Engineer.
- Assisted beginners in learning core concepts of Machine Learning.

PROJECTS

Deep Learning Approaches for Multi-Class Cancer Classification: **June 2024 – Sep 2024**

- Developed a classification method using a dataset of 10,000+ dermoscopic images.
- Addressed class imbalance with RandomOverSampler.
- Trained three CNN architectures: **Custom CNN** (Acc: 92%, Prec: 0.92, Rec: 0.92, F1: 0.92), **NasNet** (Acc: 93%, Prec: 0.94, Rec: 0.93, F1: 0.93), and **ShuffleNet** (Acc: 87%, Prec: 0.87, Rec: 0.87, F1: 0.87).
- Utilized the **Adamax optimizer** with dynamic learning rate adjustment for better convergence.

Enhancing Medical Education through Immersive Virtual Reality **Sep 2023 - May 2024**

- Developing a **VR-based Medical Training System**.
- Created **VR medical simulations** with haptic feedback for realistic training of medical students.
- The goal of the project is to reduce costs and ethical concerns associated with traditional surgical training methods.
- Project Link

Duplicate Questions Pair **June 2023 - July 2023**

- Build a model that can **Identify and Detect Duplicate** question pairs
- Applied different algorithms like **Random Forest Classifier, XB Classifier, Decision Tree Classifier**
- XGB Classifier performed very well and **achived 80% Accuracy**
- Project Link

Stock Market Prediction using Deep Learning **Sep 2023 – Oct 2023**

- Fetch live data from **Yahoo** by using **yfinance**.
- **LSTM** learns from past price patterns and trends enabling it to **predict future stock prices**.
- **LSTM** is designed to capture long-term dependencies and **85% accuracy.**
- Project Link

Pakistan Food Prices Analysis **Nov 2023 – Dec 2023**

- **Kaggle** Dataset **Food Prices in Pakistan** and apply preprocessing techniques.
- Used different Algos like **Linear Regression, AdaBoost, Random Forest**
- **Linear Regression** performed well and achived **90% accuracy.**
- Project Link

Electrionic Products Recommendation System **April 2023 - May 2023**

- **Amazon Electronic Products** Dataset to develope a **Recommendation System**
- Used Algorithms like **KNN Basic, KNN Means, KNN ZScore, SVD, SVDpp, NMF, SlopeOne, CoClustering**

- **SVD and SVDpp** performed outstanding with **Maximum Accuracy**
- Project Link

Cyber Attacks Classification using Machine Learning **Mar 2023 – April 2023**

- Project focuses on utilizing Machine Learing to **classify and identify different types of cyber attacks**
- Cleaning, normalizing, and transforming the collected data into a suitable formate
- Applied various algorithms **MLP** performed well with **93% accuracy**
- Project Link

TECHNICAL SKILLS

Languages: Python, Julia, R, C, C++, JavaScript
Technologies/Frameworks: Git, GitHub, Linux, Docker, Jenkins, Django, Flask, Software Engineering Tools and Techniques, Scripting, Numpy, Matplotlib, scipy, Panadas, seaborn, nltk, Keras, spaCy, scikit-learn, TensorFlow, PyTorch, Large Language Models, HuggingFace, GANs, Transformers, and other frameworks and libraries

PUBLICATIONS

- **Title:** "Deep Learning Approaches for Multi-Class Cancer Classification: A Comparative Study of CNN, ShuffleNet, and NasNet Models" *Status: Under Review*
- **Title:** "Gastrointestinal Disease Classification using Endoscopic Images" *Status: In Progress*

EDUCATION

National University of Computer and Emerging Sciences (FAST NUCES) **Sep 2020 - Sep 2024**
Bachelor of Science (Computer Science)