



# DAWOOD SARFRAZ


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## EDUCATION

### National University of Computer and Emerging Sciences (FAST NUCES)

Bachelor of Science in Computer Science

Sep 2020 - Sep 2024

## LANGUAGES AND TECHNOLOGIES

**Programming Languages:** Python, Julia, C, C++, MATLAB

**Machine Learning Libraries:** PyTorch, scikit-learn, TensorFlow, Keras, Numpy, Matplotlib, scipy, Pandas, seaborn, nltk, spaCy, OpenCV

**Cloud & DevOps:** Docker, Kubernetes, Jenkins

**Tools & Technologies:** Git, Trello, Pytest

**Web Frameworks:** Django, Flask, FastAPI, Gradio, Streamlits

**Deep Learning:** CNN, RNN, LSTM, HuggingFace, Transformers, Quantization, ONNX, YOLO

## EXPERIENCE

### Research Assistant

Sep 2023 – Sep 2024

Machine Learning Engineer

Remote, Pakistan

- Worked on a research project 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

Remote, 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).

### 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](#)

### Next Word Prediction

Oct 2024 – Oct 2024

- Worked with an unlabeled dataset consisting of approximately **2650** unique words and **800** lines.
- Applied preprocessing techniques and used **LSTM** with **Adam** as the optimizer.
- Achieved an accuracy of approximately **93%**.
- [Project Link](#)

### Electronic Products Recommendation System

April 2023 - May 2023

- **Amazon Electronic Products Dataset** to develop 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 Learning to **classify and identify different types of cyber attacks**
- Cleaning, normalizing, and transforming the collected data into a suitable format
- Applied various algorithms **MLP** performed well with **93% accuracy**
- [Project Link](#)