ABDUL MANAF

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SUMMARY

Dynamic and ambitious Computer Science graduate with a deep interest in AI and deep learning. Proficient in AI concepts, algorithms, and frameworks, including deep learning models. Completed a Bachelor's degree in Computer Science from Sukkur IBA with a successful final year project on wrist abnormality detection using YOLO object detection methods. Strong problem-solving, project management, programming, teamwork, and communication skills. Eager to apply AI expertise and passion for innovation in solving real-world problems. With a proven record of delivering high-impact projects, I am primed to contribute effectively and drive innovation in your team.

EXPERIENCE

Sukkur IBA University, Nisar Ahmed Siddiqui Rd, Sukkur: Research Associate (Computer Vision) Nov 2023 – Present

- Engaged in a project funded by Sindh HEC, our objective is to create an AI-driven system that interfaces with UAV devices for flood disaster rescue operations. This endeavor primarily focuses on image processing, utilizing techniques such as classification, segmentation, and question answering.

CodeClause, Software company in Pune, India: Data Scientist Intern May 2023 – June 2023

- Developed machine learning models for stock market prediction and wine quality prediction, using data analysis and statistical modeling techniques to forecast market trends and provide insights for quality control and optimization in the wine industry.

RESEARCH EXPERIENCE

Deep-NLP Research Group Nov 2022 – Jan 2024

Diverse research group specializing in NLP through deep neural networks, producing high-quality research, writing successful funding proposals, supervising students, and applying expertise to real-world problems.

- Collaborated on NLP research, focusing on deep neural networks, and aligned my Final Year Project (FYP) with the objectives of the Deep-NLP research group. (http://deep-nlp.net/)

EDUCATION

BSCS, Computer Science Graduated on June 2023

Sukkur IBA University, Sukkur, Pakistan 3.08 CGPA

Relevant coursework: Object Oriented Programming, Data Structures, Design and Analysis of Algorithms, Artificial Intelligence, Image Processing, Machine Learning, Probability and Statistics

TECHNICAL SKILLS

Programming Languages: Python, Java, Javascript, C, C++, C#
Front-end Technologies: HTML, CSS, Bootsrap, Talwin CSS, JQuery, React
Back-end Technologies: Node.JS, Express.JS, Flask, Django
Databases: MySQL, MongoDB, SQLite
Machine Learning and AI Libraries/Frameworks: Numpy, Pandas, PyTorch, Sckit-Learn, Tensorflow, Matplotlib, Keras
Others: Git, Github, AWS, Docker, Kubernetes

PUBLICATIONS

A. Ahmed, Ali Shariq Imran, A. Manaf, Z. Kastrati, and Sher Muhammad Daudpota, "Enhancing wrist abnormality detection with YOLO: Analysis of state-of-the-art single-stage detection models," Biomedical Signal Processing and Control, vol. 93, pp. 106144–106144, Jul. 2024, doi: https://doi.org/10.1016/j.bspc.2024.106144.

ACADEMIC PROJECTS

Pediatric Wrist Anomaly Detection Fall 2022 – Spring 2023

Partnered closely with a teammate to successfully create an automated system utilizing YOLO object detection methods

- Collaboratively conducted in-depth research, refining methodologies to ensure quality and academic standards of pediatric wrist abnormality detection research paper.
- Demonstrated a strong commitment to academic excellence through dedicated efforts in conducting literature reviews, analyzing findings, and refining the research methodology, resulting in the successful completion of a comprehensive research paper on the detection of wrist abnormalities.
- Leveraged expert guidance and feedback from supervisors to enhance the rigor and validity of the research, showcasing a proactive approach to academic growth and a passion for advancing knowledge in the field of pediatric wrist abnormality detection.

Image Captioning System To Assist The Blind Fall 2022

The project is aimed at developing a system using deep learning techniques to assist visually impaired individuals in obtaining information by describing images taken by them.

- Incorporated state-of-the-art pre-trained models, such as ResNet50, VGG16, and VGG19, for image feature extraction and LSTM and Bidirectional LSTM for text generation. Evaluated various models to determine the best-performing model with a BLEU-score of 0.61 and deployed it using Flask and pyttsx3 for web and text-to-speech functionality in the app.
- Deployed over the web with a user-friendly interface by utilizing the flask framework.

Pediatric Chest Pneumonia Classification: Leveraging Traditional CNN with GAN for Data Balancing Fall 2022

Pediatric Chest X-ray detection using DL techniques for accurate pneumonia identification.

- Explored and implemented Generative Adversarial Networks (GANs) to generate synthetic data for training models, enhancing the dataset and improving the performance of the system.
- Developed a user-friendly interface for seamless interaction and intuitive pneumonia classification.

Tweets Sentiment Analysis Fall 2022

The primary objective is to train and evaluate different models for sentiment analysis on the dataset.

- For each of the 16 experiments, the trained models are evaluated on the test dataset.
- The evaluation metrics include accuracy, precision, recall, and F1 score. The results are reported below in a tabular format.

Stock Market Prediction Spring 2023

The project utilizes the Tesla Stock Price dataset for training and evaluating the machine learning model. By utilizing this dataset, the machine learning model learns from the historical price patterns of Tesla's stock and predicts whether the closing price will increase by 15% within 20 market days.

Wine Quality Prediction Spring 2023

The goal of this project is to predict the quality of wine based on its physicochemical characteristics. The quality is categorized as either "bad" or "good" based on predefined thresholds. The challenge is to build a classification model that can accurately classify wines into these quality categories using the available features.

Patient History App (Kotlin) Spring 2022

The aim of this project is to develop an android application for dispensary patient data management and viewing, which will enable doctors to enter and view patient history and details. The application will be a standalone system that can be installed on an Android phone, and used after a successful login.

Recipe Management Application (MERN Project) Fall 2023

The aim of this project is to create a React-based application that streamlines recipe management by simplifying the process of searching for and adding ingredients and instructions, making culinary exploration a hassle-free experience.

Travel and Tour Agency Website (HTML, CSS, & Javascript) Fall 2021

This travel and tour agency website aims to provide an elegant online platform for travelers to explore destinations like HTML, CSS, Bootstrap, and JavaScript. Whether you're a novice or a seasoned developer, our website is designed to guide you through a captivating journey of web development.

NMR Editor (DSA & JAVA) Fall 2020

Our Java-based project, focused on data structures, aims to provide a user-friendly, feature-rich platform for writing and editing documents. With the ability to undo/redo up to 10 times, our editor provides unique and valuable functionality that is not found in legacy editors.

CERTIFICATIONS

Neural Networks and Deep Learning (DeepLearning.AI) by Coursera Fall 2022
What is Data Science? by Coursera Fall 2021
Programming for Everybody (Getting Started with Python) by Coursera Spring 2022
Mathematical Thinking in Computer Science by Coursera Fall 2021
Java Programming: Solving Problems with Software by Coursera Spring 2020
Data Structures and Performance by Coursera Fall 2021