Krutika Bhalla

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EDUCATION

Masters of Science in Computer Science (MS in CS) ***Sept 2022 - March 2024***

University of California, Riverside

GPA: **3.76/4**

Relevant Coursework: Advanced Operating System, Artificial Intelligence, Big Data Management.

Bachelor of Technology (B.Tech) in Information Technology ***July 2018 - May 2022***

KJ Somaiya Institute of Engineering and Information Technology

CGPA: **9.16/10**

Relevant Coursework: Data Structures and Algorithms, Cyber- Security, Machine Learning, Object Oriented Programming.

TECHNICAL SKILLS

Languages: Python, PHP, Java, C, SQL, MongoDB, HTML, CSS, XML, JavaScript, JQuery.

Frameworks: Bootstrap, Material UI, Laravel, Flask.

Tools & Libraries: Git, OpenCV, Tensorflow, Sci-Kit Learn, Pytorch, Numpy, Pandas, NLTK, Streamlit, AWS, Jupyter Notebook.

SOFTWARE ENGINEERING EXPERIENCE

Kennovation Software Services Pvt Ltd ***Dec 2021 – Jan 2022***

Software Engineering Intern

- Developed a software service using python and pillow library to read **6+** medical reports extensions which were not available earlier.
- Built a python scripting model to convert MRI, fMRI, PET, EEG, Clinical History, and Physiological evaluation reports into DICOM files and Diffusion-Weighted Imaging of MRI Data which processed over **10,000+** reports.
- Programmed an annotation tool using python and integrated it with Java application to annotate on patient scans which reduced **100%** of paperwork.

TTK Healthcare Ltd ***Jan 2021- June 2021***

Machine Learning Intern

- Developed a Sales Prediction model for the next quarter using previous sales made by the organization in the previous quarters using python and its Machine Learning Libraries.
- Integrated the ML Model to process **100,000** Sales Data rows in order to achieve accuracy of over **92%**.
- Implemented **3+** Machine Learning Algorithms such as Regression and Time-Series Analysis with Visualization of the trends in sales using *numpy*, *pandas, sklearn, SkTime, matplotlib* and *librosa*.

Weather Forecast Using Cloud Cover Analysis

- Developed a UNet Architecture Model for segmentation of satellite images into different cloud cover formations in order to classify the cloud cover pattern and predict the weather with an accuracy of **92%**.
- Used UNet Segmentation Algorithm for bypassing conventional bottlenecks that arise during segmentation of images and Albumenations library to deal with images of poor pixel quality. Improved the dice metric to **0.62**.

Multi-Speaker Recognition and User-Specific Answering System (B.Tech Final Project)

- Developed a Voice Assistant in python that takes in audio input for user authentication and implemented Voice Activity Detection(VAD) using MFCC from python_speech_features library to analyze audio files and extract relevant features from them.
- Implemented Recurrent Neural Network(RNN) algorithm for natural language processing, necessary to answer user-specific questions and gained a system accuracy of **92%**.

Deepfake Content Detection

- Built web based deepfake classifier using python and Flask framework which can classify images as well as videos.
- Optimized Kaggle's DFDC Dataset and implemented a type of RNN called Long Short Term Memory (LSTM) to create a model that was able to achieve an accuracy of **93%**.

PUBLICATIONS

- "Multi-Speaker Recognition and User-Specific Answering System", IEEE Xplore's 3rd International Conference for Emerging Technology (INCET), July 2022.