MAHESH RAMESH DESAI

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EDUCATION

Master of Computer Science and Engineering , August 2021-February 2023
University at Buffalo, The State University of New York
Bachelors of Computer Engineering, August 2017-May 2021
University of Mumbai

TECHNICAL SKILLS

Programming - C, C++, Python, JavaScript, Java, React JS, HTML, CSS, SQL, Typescript, JSON, MATLAB
Databases and Framework - Flask, Django, NodeJS, MySQL, Mongo DB, Hadoop, AWS
Software and Tools- Docker, MapReduce, Shell script, Raspberry PI, Visual Studio Code, ETL, Git, GitHub, RabbitMQ

EXPERIENCE

Graduate Research Software Engineer , IAD-SUNY Buffalo, Buffalo, NY, June 2022 - Present

- Incorporated Agile software development methodology throughout project lifecycle to enhance collaboration improving 20% in project delivery and team productivity
- Designed and implemented an image processing module, achieving a 75% reduction in invalid points through junction point elimination and employing Otsu thresholding for extracting the skeleton of Org Chart figures
- Conducted Name Entity Recognition with Spacy on OCR data, identifying Job Titles and Names
- Built application pipeline to extract graph data on Linux server by creating environment using PyTorch and CUDA
- Leveraged Pillow and OpenCV to calculate dominant pixel color of a legend patch and enhanced 85% detection by identifying pixels within a similar HSV value range, detecting lines and relating it to labels in legend
- Identified symbols in legend using morphological process, detected similar symbols in line graph image by feature extraction and matching using FAM-Net model giving 75.6% accuracy

Software Engineering Intern, Cyberace Infovision Private Limited, Mumbai, MH, June 2019 - July 2019

- Collaborated with team to program web application, designed to comprehend all data of an app on Google Play store to generate useful insights, contributing 15% increase in strategic decision-making
- Employed Python's NumPy, Pandas, Matplotlib, and Scikit-learn modules for meticulous data cleaning, wrangling, visualization, and manipulation, ensuring accurate and reliable data preprocessing
- Utilized ML algorithms, including time series forecasting and sentiment analysis, resulting in enhanced data-driven decision-making

RELEVANT PROJECTS

Criminal Clothes Detection (Python, React.js, Typescript, Flask, YoloV3, Mobile Net, OpenCV, Digital Ocean Cloud)

- Engineered a Flask-based web application utilizing REST API to detect criminal attire from CCTV camera footage
- Detected people from video frames with YoloV3, type of cloths using Mobile-Net and clothes color using OpenCV with 81% accuracy and identification
- Utilized MongoDB to capture data from video frames and visually present real-time data through dynamic charts in React.js web pages, by making use of Chart.js and Plotly.js and hosting project on Digital Ocean Cloud

Acuity Eye Test and Disease Detection Application (Python, JavaScript, Flask, Tkinter, Keras, Beautiful Soup)

- Led a team in developing a web application assesses visual acuity using a Log MAR chart, incorporating Google Speech to Text for voice input within Flask backend
- Trained and integrated Keras eye disease detection module with web application with 79% accuracy
- Displayed information regarding diseases on web page by web scrapping using Beautiful Soup

RAFT Web Application (Python,Docker, Flask)

- Developed a distributed Flask web application, deployed on Docker for scalability and containerization
- Implemented multi-threading for leader election using RAFT, ensuring reliability and fault tolerance

Song Playlist (C++)

- Developed an interactive Song Playlist Application enabling users to add, remove, shuffle, save liked songs, and efficiently search tracks by names and singers.