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, 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

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

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

Cafeteria Web Management (JavaScript, Nodejs, React.Js)
- Developed a NodeJS-based web application for a college cafeteria, enabling customers to create accounts, browse menu, add items to carts, and view bills improving 30% customer satisfaction
- Implemented functionalities for manager, allowing to modify menu, track orders, and automating billing