

MAHESH RAMESH DESAI

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EDUCATION

Master of Computer Science and Engineering ,
University at Buffalo, The State University of New York
Bachelors of Computer Engineering,
University of Mumbai

August 2021-February 2023

August 2017-May 2021

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, Postman, Visual Studio Code, ETL, Git, RabbitMQ

EXPERIENCE

Software Engineer, KGS Technology Inc, Buffalo, NY,

March 2024 – Present

- Extract and transform data for client performing data manipulation operations and storing it in **MySQL** database
- Developed data visualization tool through **Django** framework, Implemented the **REST APIs** for data access and Integrated Graph libraries to **visualize data** on the React.js front end

Research Software Engineer , IAD-SUNY Buffalo, Buffalo, NY,

June 2022 – March 2024

- Incorporated **Agile software development methodology** throughout project lifecycle to enhance collaboration improving 20% in project delivery and team productivity
- Developed image processing module for Org Chart with junction point elimination, Otsu thresholding, achieving 75% reduction in invalid points; conducted **automated tests** for result validation.
- Conducted Name Entity Recognition with **Spacy** on **OCR** data, identifying Job Titles and Names
- Built **data 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 - December 2019

- Collaborated with team to program web application, designed to comprehend and process 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** using **NLTK**, resulting in enhanced data-driven decision-making

RELEVANT PROJECTS

Criminal Clothes Detection (Python, Flask, React.js, Typescript, 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 and control data feed using **RabbitMQ**
- Utilized **MongoDB-Grid FS** to capture data from video frames and visually present real-time data through dynamic charts by making use of **Chart.js** and **Plotly.js** and hosting project on Digital Ocean Cloud

RAFT Application (Python, Docker, Flask)

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

Cafeteria Web Management (JavaScript, Nodejs)

- 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