# MAHESH RAMESH DESAI

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## EDUCATION

**Master of Science in Computer Science and Engineering**                                        August 2021– February 2023
University at Buffalo, The State University of New York, Buffalo, NY
**Bachelors of Engineering in Computer Engineering**                                        August 2017 – May 2021
University of Mumbai, Mumbai, MH

## 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, Visual Studio Code, ETL , GitHub ,RabbitMQ

## EXPERIENCE

**Software Engineer**                    **KGS Technology Inc -Buffalo, NY**                    March 2024 – Present
- Performed ETL operations using Python and SQL to streamline data collection from various teams, created reports, and documented processes in GitHub for easy accessibility
- Conducted Exploratory Data Analysis (EDA) on onboarding data, utilizing Python and SQL queries in MySQL to retrieve and manipulate large datasets, ensuring data accuracy and integrity
- Developed a data visualization tool using the Django framework, integrated Graph libraries, and displayed visual data on a React.js front-end
- Implemented REST API endpoints for seamless data access, thoroughly tested using Postman

**Research Software Engineer**                    **IAD-SUNY Buffalo -Buffalo, NY**                    June 2022 – March 2024
- Incorporated Agile software development methodology throughout project lifecycle to enhance collaboration
- 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
- Detected similar symbols in line graph image 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 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 inenhanced data-driven decision-making

## ACADEMIC PROJECTS

**Criminal Clothes Detection (Python, Flask, React.JS, Typescript, YoloV3, Mobile Net, DigitalOcean 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 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