Munjal Desai

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EDUCATION

Master of Science in Software Engineering *Aug 2021 - May 2023*
San Jose State University, San Jose, USA.
- **Coursework:** Machine Learning, Data Mining, Enterprise Distributed Systems, Enterprise Application Development.

Bachelor of Engineering in Computer Engineering (GPA 3.96/4.00) *Jul 2015 - Jun 2019*
Gujarat Technological University, Ahmedabad, India.
- **Coursework:** Data Structures and Algorithms, Database Management System, Operating System, OOP (C++, JAVA), Data Mining and Business Intelligence, Artificial Intelligence, Big Data Analytics.

Online Courses
- Deep Learning (Specialization, coursera), Machine Learning with Tensorflow on Google Cloud (Specialization, coursera).

SKILLS

Programming Languages: Python, Java, JavaScript, C/C++.
Machine Learning: Pandas, NumPy, TensorFlow, Keras, Scikit-learn, Scrapy, Fastai, NLTK, Fasttext, OpenCV, Spacy.
Web Technologies/Frameworks: Flask, Spring Boot, Express, React, Apache Kafka, Redux, Node.js, Bootstrap, MERN stack.
Database and cloud Technologies: SQL Server, MySQL, MongoDB, AWS (EC2, Elastic Bean, RDS, S3), GitHub, Heroku.

PROFESSIONAL EXPERIENCE

Tinkerkraft Technology Labs, Machine Learning Engineer Intern *Jul 2020 – Mar 2021*
- Composed script to convert raw unstructured product descriptive text to a structured format and constructed a natural language model to accomplish Named Entity Recognition task using **Spacy**.
- Formulated **NLP** models to classify text data using **fasttext** with an accuracy over 97%.
- Developed end to end machine learning pipeline with Transfer learning, custom classification with limited samples for enterprises and improved accuracy of existing computer vision models up to 15% and formulated new models using **fastai(Resnet50)** with more than 1.5 million images collected from the web (with >98% accuracy).
- Accelerated data collection process with **scrapy** and parallel processing reducing time upto 65%.
- Conducted analysis on customers' shopping habits in a different location, different categories and different months by using time series Modeling techniques.
- Developed scripts for the whole ML process including raw-data analysis, data cleaning and preprocessing, feature engineering, model training, model quantization, prediction and post-training analysis improving performance by 28%.

Creatosaurus, Machine Learning Engineer Intern *Dec 2019 – Jun 2020*
- Performed data analysis using descriptive statistics and handled anomalies such as removing duplicates and imputing missing values reducing error by 25%.
- Applied various transfer learning techniques using pre-trained word-embeddings like **glove**, **BERT**, universal sentence encoder for text similarity tasks.
- Researched with a team of 7 members in the field of computer vision models using RCNN, RESNET, YOLO, SSD etc. with frameworks **TensorFlow, darknet** and able to get the mAP score above 70%.
- Applied various kinds of computer vision algorithms with **OpenCV** combined with machine learning techniques to preprocess data and then apply image segmentation, object detection and classification to get insights as per client requirement.
- Designed custom REST API's using python's FastAPI framework to deploy machine learning models improving performance by 15%.

Croods Consolidates, Software Engineer Intern *Jul 2018 – Mar 2019*
- Collaborated in an agile environment and enhanced and upgraded ERP system software using Java's **spring boot** framework working with a team of 6 members.
- Instituted backend API's to save, validate and submit data according to business rules provided by client and used **REST** protocol for state transfer hence refined validation speed by 80%. Pioneered to automate the process of tax invoice generation with Jasper Reports.

PROJECTS

Disaster Tweets Classification using BERT *Jan 2021 - Feb 2021*
- Modified the **BERT** deep-learning model for Natural Language classification task to predict whether a tweet is related to real disaster or not. The model was able to capture the important information with an accuracy over 85%.

Face Detection and Recognition *Jun 2021 - Jul 2021*
- Programmed face detection and recognition using OpenCV and vgg16 with accuracy of 91%.

Retinal OCT image disease Classifier *Nov 2021 - Dec 2021*
- Developed an algorithm to detect eye diseases from retinal oct images using spatial separable convolutions reducing training time over 50% as compared to usual CNN and achieved an accuracy over 98%.