BHUMI GODIWALA

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EDUCATION

University of Southern California **May 2023**

- Master of Science in Electrical and Computer Engineering (Machine Learning and Data Science specialization) **(GPA 3.80/4.0)**

Dwarkadas J. Sanghvi College of Engineering, University of Mumbai, India **October 2020**

- Bachelor of Engineering in Electronics and Telecommunications **(CGPA 9.19/10)**

TECHNICAL SKILLS

- **Programming Languages**: Python, Java, Git, C, C++, MySQL, SQL, Oracle, Object Oriented Programming (OOP/OOPs)
- **Software**: PyTorch, Jupyter Notebooks, Anaconda, PyCharm, Eclipse, Docker, JIRA, Node JS, AWS S3, AWS CLI
- **Libraries and Frameworks**: Matplotlib, Tensorflow, Keras, Numpy, OpenCV, Scikit-Learn, Pandas, Onnx.
- **Web-Technologies:** HTML, CSS, Javascript, JSON

WORK EXPERIENCE

TetraMem Inc.

Machine Learning Intern **January 2023–Present**

- Developing Machine Learning models for ML applications like Visual Wake Words, Human Pose Estimation and other TinyML applications using PyTorch, Onnx Runtime and COCO Python API. These models are verified on in-memory computing AI inference chip.
- Performing Quantization Aware Training (QAT) for neural network optimization and parameter reduction of the developed Machine Learning models.

Machine Learning Intern **May 2022–August 2022**

- Developed lightweight Machine Learning models for Human Pose Estimation system using PyCharm and Linux based environment along with Tensorflow and COCO Python API. These models are verified on in-memory computing AI inference chip.
- Additionally, performed post-training quantization for neural network optimization and parameter reduction of the developed Machine Learning models and achieved an accuracy metric of 93% for the models with efficient reduction in model size.

Tata Consultancy Services - ION, India **October 2020–Aug 2021**

Software Developer

- Developed online application forms using JAVA, HTML, CSS and JavaScript and deployed them over several university's portal. This was achieved in real-time live environment using TCS' proprietary framework.
- Performed metadata configuration mapping and testing along with reports generation, data segregation and optimization based on course name and course codes.

ACADEMIC PROJECTS

ASL Gestures Prediction using ST-GAN for Shadow Removal

- Implemented a model combination of a pretrained GAN and CNN to train and improve classification of accuracy eliminating the influence of shadows in the ASL Gestures
- Classified the ASL Gestures 'E' and 'S' reducing the shadow influence and achieved test accuracy of 92.9%. Utilized MLOPs application MLFlow for tracking and logging experience outputs.

Banking Subscription Analysis

- Performed classification task to predict client subscription to term deposit service. Implemented supervised algorithms like Logistic Regression, Decision Trees, Random Forests and Support Vector Machines for classification task.
- Compared the performance metrics Accuracy and F1 score, confusion metrics using Semi-supervised algorithms like S3VM, label propagation, label spreading, Co-training classifier.

Community Car Rental Platform

- Designed a web-application for car rentals and deployed it using Google Cloud CLI. Added functionalities using external APIs like Google Maps API, Cloudinary and VIN lookup.
- Developed the database schemas using GraphQL and hosted the data on MongoDB.

Movie Recommendation System

- Implemented content-based, collaborative filtering and hybrid filtering based Movie Recommendation System by preprocessing the data with help of word embeddings and word vectorization techniques
- Conducted Exploratory Data Analysis on the MovieLens dataset for feature extraction and data preprocessing and evaluated the models using metrics like Root Mean Square Error (RMSE) and Mean Absolute Error (MAE)

Algerian Forest Fires Classification

- Implemented classification system for predicting occurrence of forest fires using Bernoulli trivial system, Bayes Nearest Means Classifier, Perceptron learning Algorithm, Support Vector Machines with different Kernelling methods, k-Nearest Classifier, Decision Tree, Naïve Bayes Classifier, and the Random Forest Classifier.
- Performed comparison and analysis to gain insights on metrics like accuracy, F1 score and confusion Matrix using Statistics and Regression Analysis and utilizing concepts like Principal Component Analysis and Linear Discriminant Analysis

COCURRICULAR ACTIVITIES

- Attended Grace Hopper Celebration 2022 virtually.