BHUMI GODIWALA

Los Angeles, CA | (984) 810-9668 | godiwala.bhumi@gmail.com | https://www.linkedin.com/in/bhumigodiwala

EDUCATION

University of Southern California — Los Angeles, CA
Master of Science — August 2021-May 2023
- Master of Science in Electrical and Computer Engineering (Machine Learning and Data Science specialization) (GPA 3.8/4.0)

Dwarkadas J. Sanghvi College of Engineering, University of Mumbai — Mumbai, India
Bachelor of Engineering — July 2016-October 2020
- Bachelor of Engineering in Electronics and Telecommunications Engineering (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

USC Information Sciences Institute — Marina Del Rey, CA
Machine Learning Researcher — July 2023-Present
- Create ML models, researching distributed edge computing AI system design
- Investigate model compression, applying quantization, and pruning models for edge device enhancement

TetraMem Inc — Fremont, CA
Machine Learning Intern — January 2023-May 2023
- Created ML models (e.g., Visual Wake Words, Human Pose Estimation) with PyTorch, Onnx Runtime. Verified on a state-of-the-art AI inference chip with in-memory computing capabilities
- Designed customized model with positive-only weights using PyTorch, maintaining accuracy. Applied Quantization Aware Training (QAT) for optimized models with reduced parameters

TetraMem Inc — Fremont, CA
Machine Learning Intern — May 2022-August 2022
- Built Human Pose Estimation ML models using PyCharm, Tensorflow, and COCO Python API in Linux environment. Validated on an in-memory computing AI inference chip post neural network optimization
- Executed post-training quantization to optimize developed Machine Learning models, achieving 93% accuracy with reduced size

Tata Consultancy Services - ION — Mumbai, India
Software Developer — October 2020-August 2021
- Created JAVA, HTML, CSS, and JavaScript forms for university portals, deploying in real-time using TCS' framework
- Conducted metadata mapping, testing, reports generation, and optimized data segregation by course details

ACADEMIC PROJECTS

ASL Gestures Prediction using ST-GAN for Shadow Removal
- Engineered pre-trained GAN-CNN fusion to enhance ASL Gesture classification, mitigating shadow effects
- Attained 92.9% test accuracy for 'E' and 'S' ASL Gestures classification. Utilized MLFlow for MLOps tracking and experience logging

Banking Subscription Analysis
- Executed client subscription prediction using supervised algorithms: Logistic Regression, Decision Trees, Random Forests, and SVM
- Assessed performance via Accuracy, F1 score, and confusion metrics. Evaluated semi-supervised techniques including S3VM, label propagation, label spreading, and Co-training classifier

Community Car Rental Platform
- Created car rental web app, deployed on Google Cloud CLI, and enhanced with Google Maps, Cloudinary, and VIN API integrations
- Designed database schemas via GraphQL with data hosted on MongoDB

Movie Recommendation System
- Developed Movie Recommendation System: content-based, collaborative, and hybrid filtering. Preprocessed data using word embeddings and vectorization techniques
- Conducted EDA on MovieLens dataset for feature extraction and model evaluation using RMSE and MAE metrics

Algerian Forest Fires Classification
- Spearheaded the creation of an advanced forest fire prediction framework employing a diverse array of classifiers including Bernoulli, SVMs, Decision Trees, and Random Forest. Diligently Evaluated performance through metrics including accuracy, F1 score, and confusion matrices
- Employed statistics, regression analysis, Principal Component Analysis (PCA), and Linear Discriminant Analysis (LDA) for insights

Detecting COVID-19 with Chest X-Ray using PyTorch
- Classified Chest X-Ray dataset: Normal, Viral Pneumonia, COVID-19 using PyTorch ResNet-18 model
- Achieved an impressive 96% accuracy; conducted comprehensive analysis with Matplotlib, Torchvision, NumPy, PIL, and Python