Nischal Chandur

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Work Experience

Ecolab Inc. **June 2024 - Present**
Naperville, IL, USA
Data Science Graduate Intern

ReWorked.ai **April 2024 - May 2024**
College Park, MD, USA
Machine Learning Engineer

- Developed an algorithm to predict the likelihood of residential solar panel installations using Bayesian inference and machine learning techniques.
- Conducted extensive exploratory data analysis to identify key factors influencing solar panel installation decisions.
- Collaborated with industry experts to incorporate deep insights and expertise into the algorithm and a rules-based score generation engine.
- Created a scoring system to provide actionable insights on the probability of solar panel installations at individual residences.

Latlong (ONZE Technologies Pvt. Ltd.) **September 2022 - June 2023**
Bangalore, KA, India
Data Engineer

- Developed Python-based data extraction tools for location-based analyses, identifying untapped profit potential.
- Utilized Python and QGIS to study and visualize client data and corresponding geo-spatial attributes.
- Conducted in-depth statistical analysis to estimate region profitability, facilitating informed decision-making for financial institutions, automobile companies, and real estate developers.

Education

University of Maryland **August 2023 - Present**
College Park, MD, United States of America
Master of Science in Data Science
Relevant Coursework: Probability & Statistics | Fundamentals of Machine Learning | Algorithms of Data Science | Data Representation and Modelling | Computer Vision

PES University **August 2018 - May 2022**
Bangalore, KA, India
Bachelor of Technology in Electronics and Communication Engineering
Specialization in Signal Processing and Systems Engineering (SPaSE)
Relevant Coursework: Engineering Mathematics | Linear Algebra | Random Processes | Artificial Neural Networks | Pattern Classification

Projects

Dimension Reduction Analysis using Fruit-360 Dataset **April 2024 - May 2024**

- Explored dimensionality reduction methods PCA, kernel PCA (polynomial and Gaussian kernels), t-SNE, and Autoencoder embedding using a subset of the Fruit-360 dataset in MATLAB.
- Transformed the dataset using these methods and measured the time taken for transformation.
- Conducted KNN classification on both original and transformed datasets, recording accuracy and classification time, demonstrating PCA as the most efficient method for dimensionality reduction in terms of accuracy, time, and classification time.

Sign Language Recognition and Translation **March 2024 - May 2024**

- Developed a sign language recognition and translation system employing computer vision techniques and convolutional neural networks.
- Trained transfer learning models (InceptionV3, MobileNetV2, DenseNet201, ResNet101, VGG16) and a custom CNN on Indian and American sign language datasets, optimizing training sizes, epochs, and learning rates.
- Selected top-performing models for each sign language and deployed them on a web application using Flask and ngrok, enabling users to upload images and receive recognized gestures along with translations.
- Implemented functionality for users to input strings and receive corresponding finger-spelled gestures for the words in the string.

NBA Prediction and Analysis Model **August 2023 - December 2023**

- Constructed an end-to-end pipeline for NBA game outcome prediction, extracting data from online sources, cleaning, transforming, and loading it into a structured database.
- Conducted exploratory data analysis to identify key features influencing game outcomes, drawing insights from NBA methodologies.
- Developed a machine learning algorithm to predict team victory probabilities based on relevant features.
- Created a Flask-based web application to deploy the ML algorithm, allowing users to view daily game schedules, detailed game analytics, team and player statistics, and league standings.

Technical Skills

Data Science and Machine Learning: Pytesseract | OpenCV | SpaCy | scikit-learn | Numpy | Pandas |Matplotlib | Seaborn
Programming Languages: Python | MATLAB | Golang | C/C++ | HTML/CSS | JavaScript
Database Management Systems: PostgreSQL | MySQL | MongoDB
Operating Systems: UNIX | Windows
Other: Git | Docker | Amazong Web Services (AWS) | Microsoft Office Suite