Gayathri Pulagam

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EDUCATION

San Jose State University
MS Software Engineering (Data Science) 2021
Web and Big Data Mining
Deep Learning
Reinforcement Learning
Systems Engineering

Jawaharlal Nehru Technological University
BS Computer Science 2017
Data Structures and Algorithms
Design Patterns
Operating Systems
Distributed Systems

SKILLS

TECHNICAL SKILLS: Python, Java, R, PyTorch, TensorFlow, Keras, Computer Vision, Deep Learning, Data Analysis, Data Modelling and Evaluation, Data Visualization, Data Preprocessing, JavaScript, SQL, AWS , Docker, React.js

PROJECTS

LipScribe - An Application to generate text from lip movements — June 2021 - Current

- Currently developing a data ingestion pipeline to transmit streaming video data to the model served on the cloud to get real-time inferences
- Performed downstream tasks to annotate a large dataset with text captions using pre-trained audio to text conversion models
- Extracted the region around the lips of a user (ROI) from a video frame using the OpenCV library

Driver Distraction Detection using Neural Networks — Jan. 2021 - May 2021

- Built a custom EfficientNet model to detect drivers in images and classify each driver based on their posture into 10 different categories of safe or unsafe driving
- Developed real-time visualization dashboards using TensorBoard to monitor the performance of models during training
- Experimented with various image preprocessing techniques using Keras' image preprocessing module and augmented images using Keras' data generator

Banking Application using React and Node — Jan. 2021 - May 2021

- Developed APIs to transfer funds between users and display the list of financial transactions on the user's homepage using Node and Sequelize
- Designed and developed UI and frontend components for transfer funds and transactions APIs using React
- Deployed the web application to AWS in an Auto Scaled EC2 Cluster with Load Balancer

Customer Segmentation and Increased Engagement using Machine Learning — Jan. 2021 - May 2021

- Amalgamated various e-commerce datasets by calculating latent variables to deal with data imbalance
- Calculated spending scores for the users to draw meaningful insights on user buying patterns
- Calculated user engagement scores by assigning weights to the purchase event types for that particular user
- Segmented customers into 5 cohorts by calculated Customer Lifetime Values

Hateful Meme Detection — Aug. 2020 - Dec. 2020

- Generated descriptive text captions for images using a pre-trained CNN + RNN based model
- These captions were used along with the meme text in the images to perform multi-modal classification of memes as hateful or non-hateful
- Developed a web interface and created an endpoint using AWS SageMaker and AWS Lambda

Facial Expression Recognition — Jan. 2020 - Feb. 2020

- Built and trained a CNN in Keras from scratch to recognize facial expressions
- Used OpenCV to detect faces in images and classify each face based on emotion into 7 different categories
- Deployed the trained model to a web interface to perform real-time facial expression recognition on video and image data