# 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

## WORK EXPERIENCE

**Virufy**
Data Scientist (Part-time) Apr. 2022 - Current

- Developing attention-based model architectures for audio classification
- Evaluated various mel-spectrogram generation techniques for preprocessing audio data
- Augmented audio data using techniques like noise injection, pitch change and shifting time using python's librosa

## SKILLS

**TECHNICAL SKILLS:** Python, Java, SQL, AWS

## PROJECTS

LipScribe - An Application to generate text from lip movements June 2021 - Dec. 2021

- Developed and trained a 3D-CNN architecture to generate text sequences from a person's lip movements
- Monitored the model training and visualized the model metrics using tensorboard
- 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 Aug. 2020 - Dec. 2020

- 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