ACCENT DETECTION

TEAM NAME: LE BOYS

INTERNATIONAL INSTITUTE OF
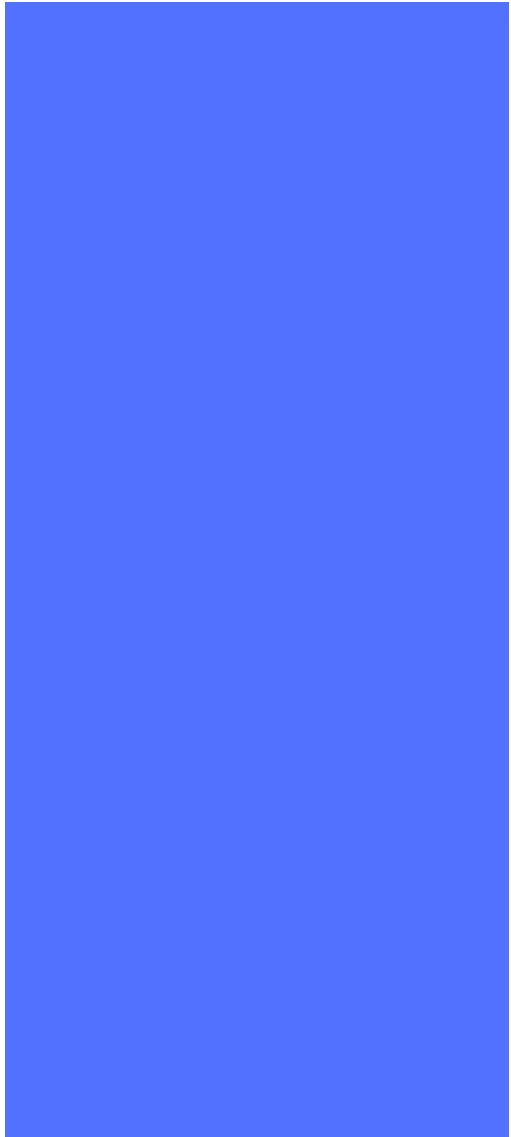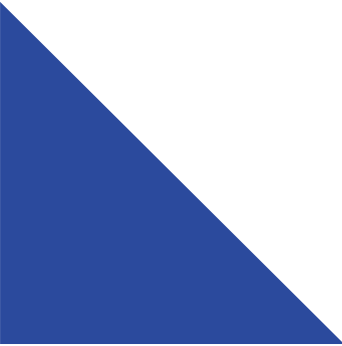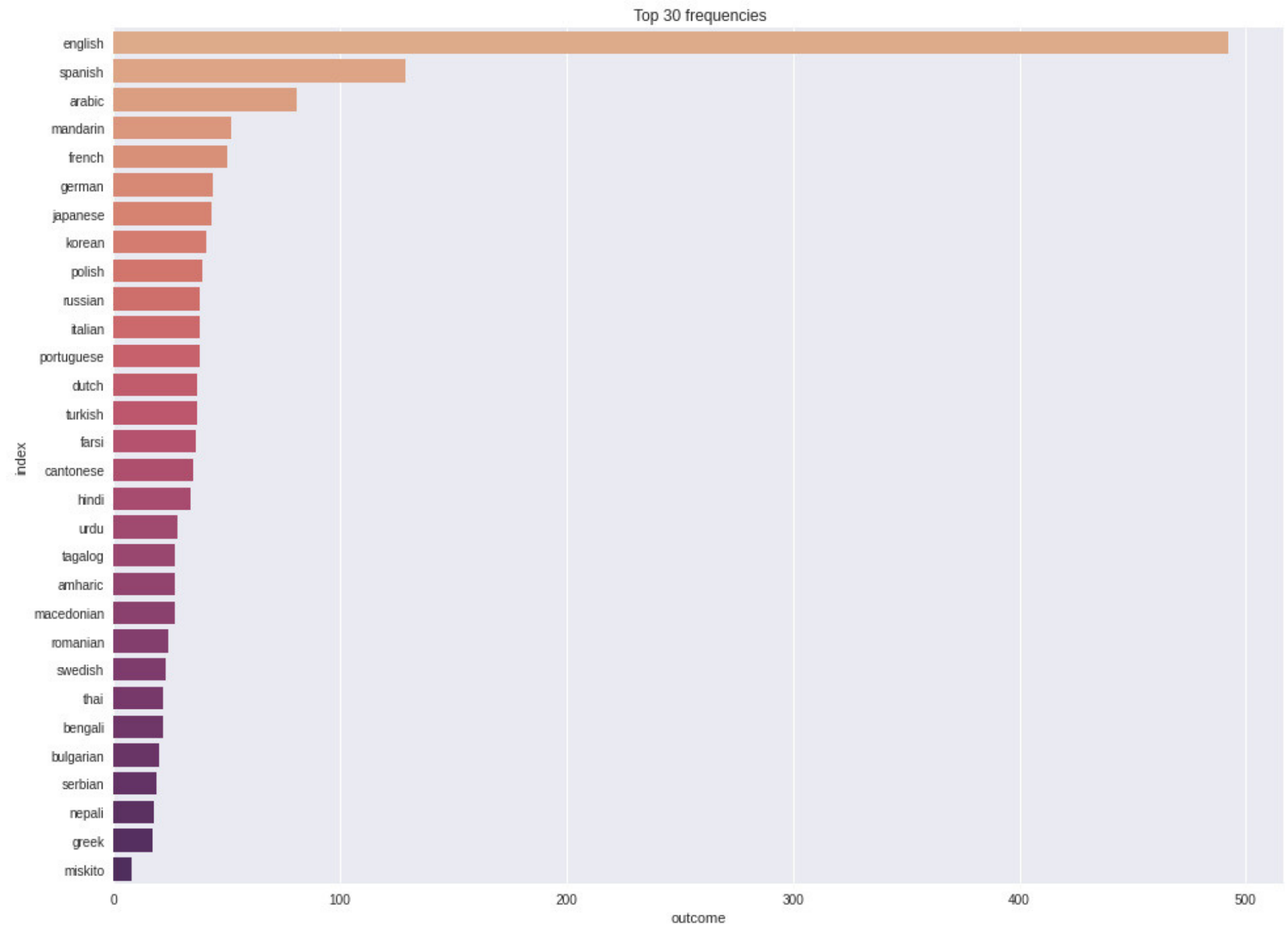INFORMATION TECHNOLOGY
HYDERABAD

PROBLEM STATEMENT

Given an audio clip of a person speaking in English, identify the native language of the speaker based on their accent when they are speaking in English.
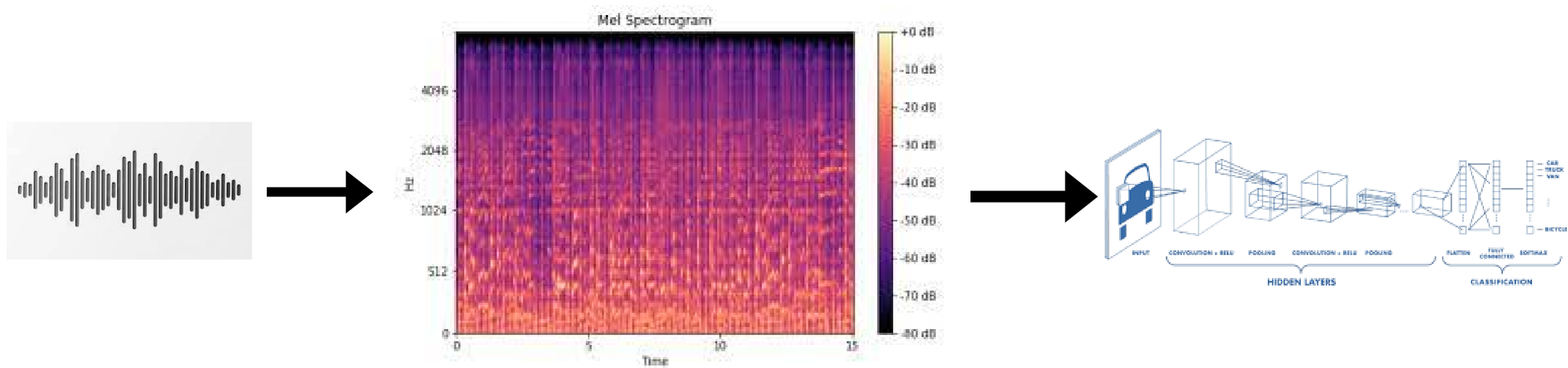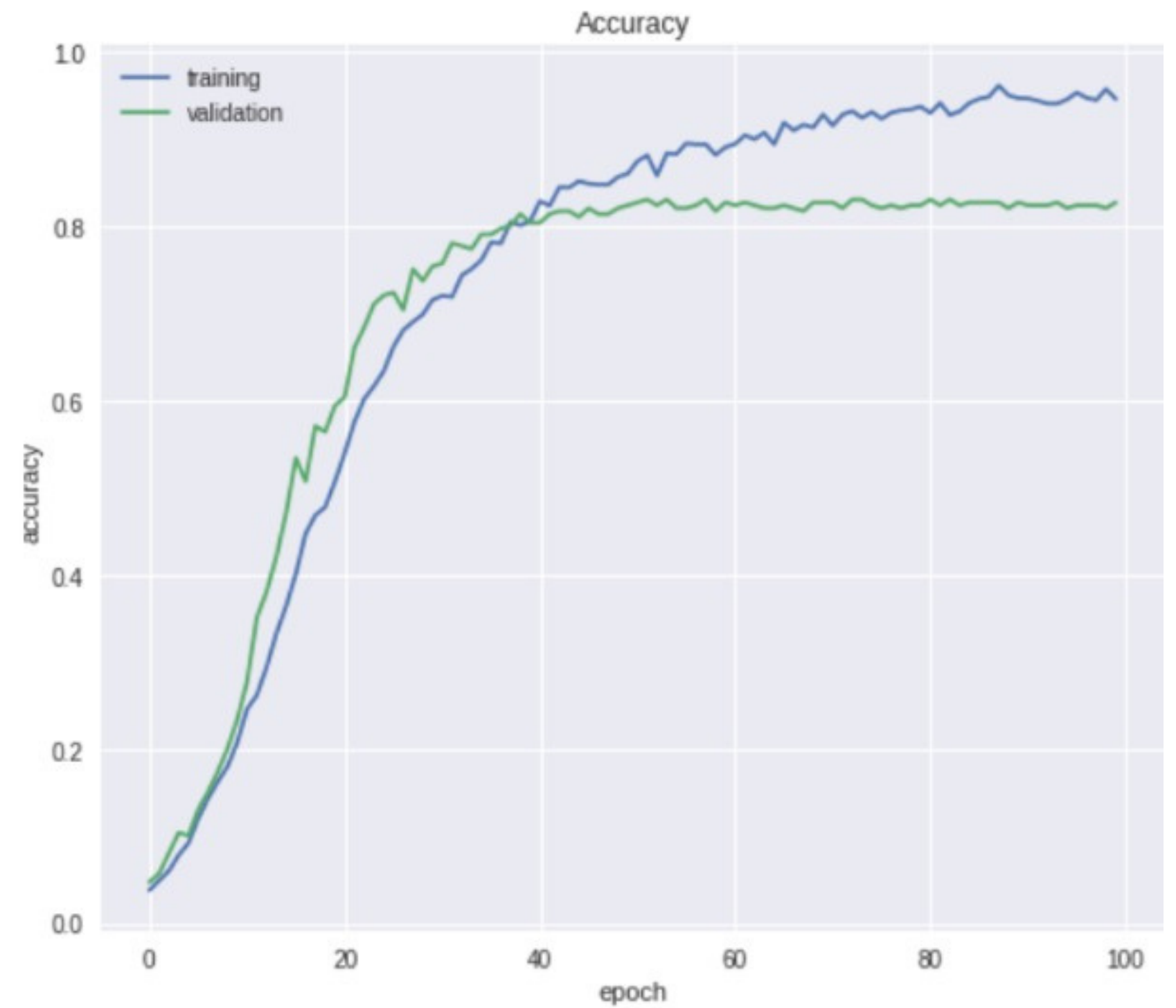
INITIAL OBSERVATIONS

- Skewed Data
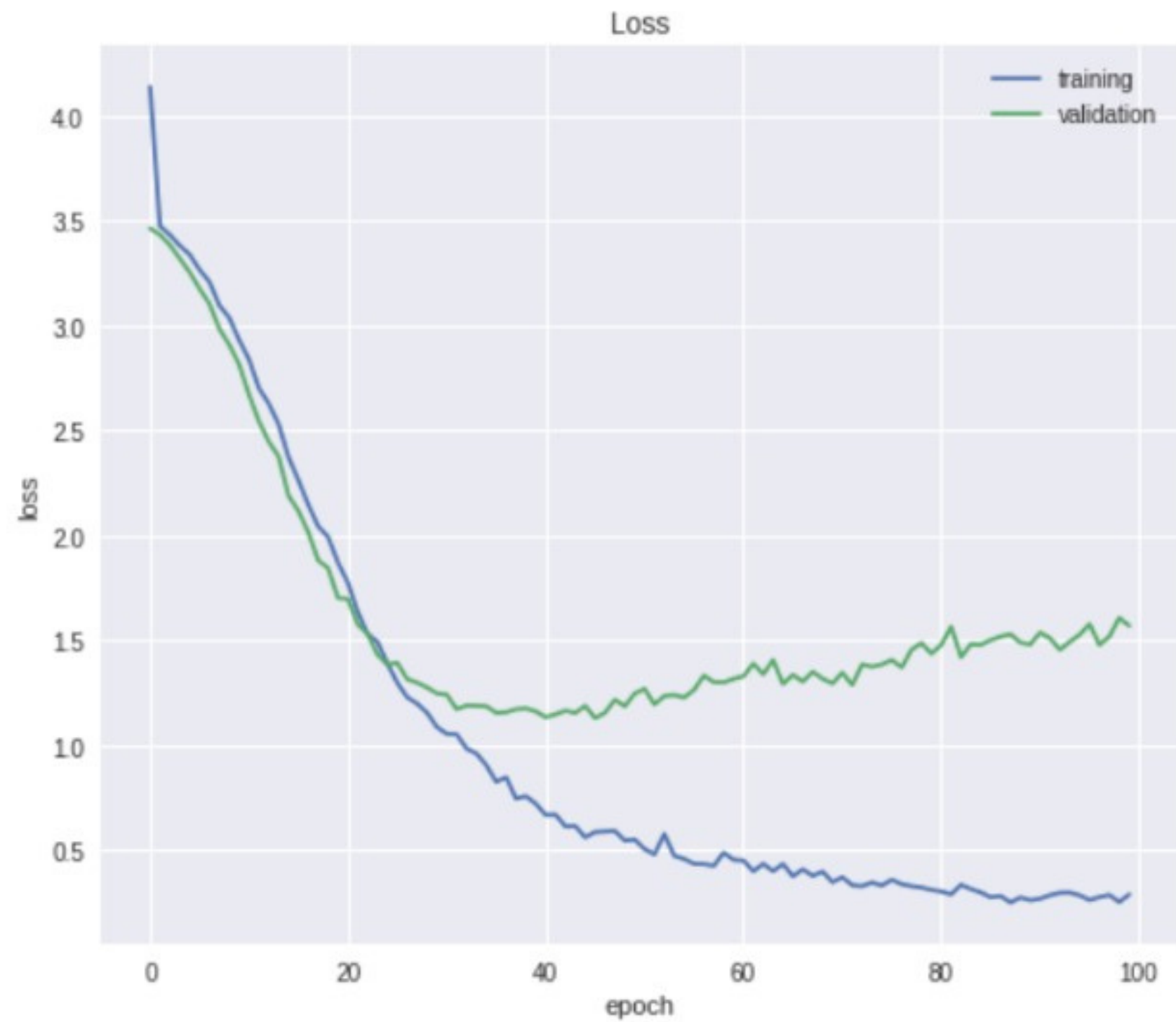
- Used techniques like data augmentation and oversampling

- Reduces cost of procuring data

Top 30 frequencies

PROJECT ARCHITECTURE

- Used CNNs (process images well)
- Pass the spectrogram of audio to CNN

LOSS AND ACCURACY CURVE

RESULTS

- Training accuracy: 94%
- Validation accuracy: 82%
- F1 score: 0.79

- Less than 3 seconds for 1 query
- Took less than 3 minutes to train

- Handled Skewed data using oversampling and augmentation

INDUSTRY USAGE

- Accent identification

- ML on less data (real world scenarios)

- Less cost of data production

- Improving voice assistants, voice based searching, etc.

TEAM MEMBERS

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- Ishan Kavathekar
- Kunal Bhosikar
- Md. Faizal Karim
- Prakhar Jain

THANK YOU