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# English Accent Recognition System by Deep Learning

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I. Abstract :
Accent Detection is used to detect a person's pronunciation or accent associated with where they live. Deep learning is used to recognize English accents. This software is designed to check the closest English accent spoken in a location. Deep learning consists of CNNs (Convolutional Neural Networks).
Accent detection is one of the newest or growing topics. Thus, in this ideology, languages or accents are categorized, and the categorized accents provide the background of people and the demographic place in which they live. This information is useful for working with many domains. In this study, CNN is used for accent detection of English speakers.
Experimental results demonstrate the power of deep learning in accent detection and the potential of the algorithms used in this accent classification process. This process is very useful in security domains.

Introduction:
There are many languages spoken in the world and English is one of the most important and popular languages in the world. It is spoken in over 70 countries around the world. English is used as the top language in most countries because English is a common medium for communicating with people from different countries. However, English speakers in these countries have different accents. Accent is the way words are pronounced in the language. Differences in accents can lead to many problems. B. Whether the person speaks positively or negatively, people do not understand each other, leading to trust problems between people. There are various studies that suggest that people with ulcers are less likely to be trusted. Additionally, a person's accent and dialect can provide information about their origin and ethnicity. In border control, the suspect's origin and ethnicity allow law enforcement to obtain important details about the suspect's origin and country, as well as identify the speaker's identity.
Artificial intelligence and machine learning enable automatic detection and classification of accents and dialects, and can process accent characterization for speakers of each language. Note that the accent detection and classification process is used as the main stage of speech recognition.

III Literature Review:

1. Speaker Accent Detection Using Machine Learning Algorithms

Author: Ahmet Aytug Ayranci
Methods: Speaker Accent Detection, Machine Learning, Mel-Frequency Cepstral Coefficients
Description: In this paper, speech and speaker It states that awareness is important to many. Areas such as telephone shopping, online banking, and security applications. ML algorithms can be used to verify and analyze speakers and voices. Given enough data, a program can be trained to identify speech and speaker identity.

2nd Accent Recognition Using Machine Learning Methods

Author: Harsh Patel Komal
Methods: Multilayer Perceptron (MLP) Neural Networks, Convolutional Neural Networks, Speech Recognition, Machine Learning Models
because it depends on the accent of People of different demographics have different accents. In this paper, we address this problem and find a speech recognition algorithm with an accent detection layer.

3. English Speech Accent Classification Using Deep Learning and Speech Analysis
Methods: Speech Processing, Deep Learning Algorithms, English Accent Classification.
Description: This paper states that a categorized set of accents can provide details about people's demographic information that are useful in several aspects. This article uses a convolutional neural network to detect the triple accent of an English speaker composed of British, American, and Indian speakers.

4. Characteristics of Speech Audio for Accent Detection

Author: Yuvika
Methods: Accent Detection, MFCC, Chromagram, Spectral Centroid, Spectrogram
Or stating that you have an accent. Form, age, social class, geographic region, etc.
Accent recognition is an important task. Speech recognition can be improved by first identifying accents and forwarding them to a speech recognizer trained for a particular accent group.

5. Accent Classification for Speech Recognition

Author: Arlo Faria.
Method: Accent Classifier
Description: This work describes the classification of speech by native and non-native speakers. This enables accent-dependent automatic speech recognition. In addition to acoustic signals, lexical features from transcripts of speech data can also provide information about a speaker's type of accent.

6. Accent Classification Using Machine Learning

Authors: Saiprasad Duduka, Henil Jain, Virik Jain, Harsh Prabhu, Prof. Pramila M. Chawan
Methods: Machine Learning, Deep Learning, Accent Classification, Automatic Speech Recognition (ASR )
Description: This article states that the author intends to conduct a comprehensive survey of various machine learning and deep learning techniques used in the accent classification literature. Accent classification is an important part of many automatic speech recognition (ASR) systems. Compare Essays

Conclusion: The accent detection and classification system is proposed for use in deception detection in order management. Deep learning has been proposed in the proposed system, with significantly improved results. Proper classification of accents can provide insight into a speaker's origins and heritage. This is certainly necessary for languages like English, which have multiple regions and dialects and are widely spoken by different populations. Our extensive simulation results show excellent accuracy above 90% when using Deep Transfer Learning. A lot of research is needed to collect and simulate unique datasets for border control, litigation, healthcare, border security, and domestic lie detection.

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