Course-5: Week3

Sequence model: Trigger Word Detection

- Sequence models can be augmented using an attention mechanism. This algorithm will help the model to understand where it should focus its attention given a sequence of inputs. This week, talk about speech recognition and how to deal with audio data and how to build models for natural language, audio, and other sequence data.
- Thanks to deep learning, sequence algorithms are working far better than just two years ago, and this is enabling numerous exciting applications in speech recognition, music synthesis, chatbots, machine translation, natural language understanding, and many others. You will: - Understand how to build and train Recurrent Neural Networks (RNNs), and commonly-used variants such as GRUs and LSTMs.
- Apply sequence models to natural language problems, including text synthesis.
- Apply sequence models to audio applications, including speech recognition and music synthesis.
- One of the most exciting developments were sequence-to-sequence models has been the rise of very accurate speech recognition.
- The sequence-to-sequence models are applied to audio data, such as the speech. So, what is the speech recognition problem? You're given an audio clip, x, and your job is to automatically find a text transcript, y. So, an audio clip, if you plot it looks like this, the horizontal axis here is time, and what a microphone does is it really measures minuscule changes in air pressure, and the way you're hearing my voice right now is that your ear is detecting little changes in air pressure, probably generated either by your speakers or by a headset.
- With the rise of speech recognition, there have been more and more devices.
- You can wake up with your voice, and those are sometimes called trigger word detection systems. So, how you can build a trigger word system.