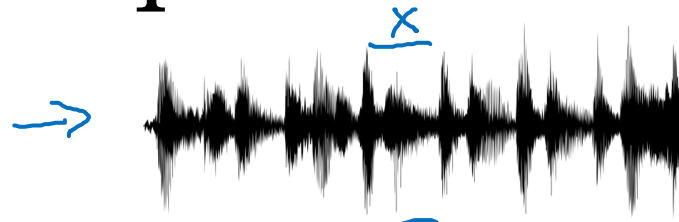# Recurrent Neural Networks

deeplearning.ai

Sequence model, one of the most exciting areas in deep learning. Models like recurrent neural networks or RNNs have transformed speech recognition, natural language processing and other areas.
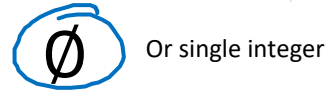
Why sequence models?

Examples of sequence data

Speech recognition $\xrightarrow{}$ [audio waveform] x $\longrightarrow$ y "The quick brown fox jumped over the lazy dog."

Music generation $\varnothing$ Or single integer $\longrightarrow$ [musical notation]

Sentiment classification "There is nothing to like in this movie." $\longrightarrow$ ★☆☆☆☆

DNA sequence analysis $\rightarrow$ AGCCCCTGTGAGGAACTAG $\longrightarrow$ AGCCCCTGTGAGGAACTAG

Machine translation Voulez-vous chanter avec moi? $\longrightarrow$ Do you want to sing with me?

Video activity recognition [images] $\longrightarrow$ Running

Name entity recognition $\rightarrow$ Yesterday, Harry Potter met Hermione Granger. $\longrightarrow$ Yesterday, Harry Potter met Hermione Granger.

Andrew Ng