# Recurrent Neural Networks

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# Why sequence models?

deeplearning.ai

# Examples of sequence data

Speech recognition $\xrightarrow{}$ [audio waveform $x$] $\longrightarrow$ "The quick brown fox jumped over the lazy dog." $y$
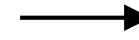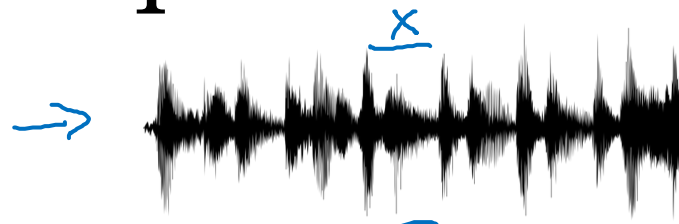
Music generation $\boxed{\emptyset}$ $\longrightarrow$ [musical notes]
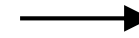
Sentiment classification "There is nothing to like in this movie." $\longrightarrow$ ★☆☆☆☆

DNA sequence analysis $\xrightarrow{}$ AGCCCCTGTGAGGAACTAG $\longrightarrow$ AG<span style="color:red">CCCCTGTGAGGAACT</span>AG
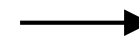
Machine translation Voulez-vous chanter avec moi? $\longrightarrow$ Do you want to sing with me?
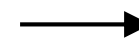
Video activity recognition [images] $\longrightarrow$ Running

Name entity recognition $\xrightarrow{}$ Yesterday, Harry Potter met Hermione Granger. $\longrightarrow$ Yesterday, <span style="color:red">Harry Potter</span> met <span style="color:red">Hermione Granger</span>.

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