



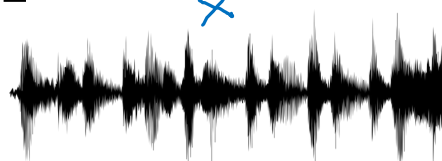
deeplearning.ai

Recurrent Neural Networks

Different types of RNNs

Examples of sequence data

Speech recognition



Music generation



Sentiment classification

“There is nothing to like
in this movie.”

DNA sequence analysis

AGCCCCTGTGAGGAACTAG

Machine translation

Voulez-vous chanter avec
moi?

Video activity recognition



Name entity recognition

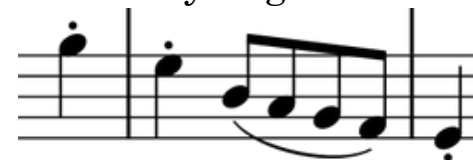
Yesterday, Harry Potter
met Hermione Granger.

T_x

T_y

y

“The quick brown fox jumped
over the lazy dog.”



AGCCCCTGTGAGGAACTAG

Do you want to sing with
me?

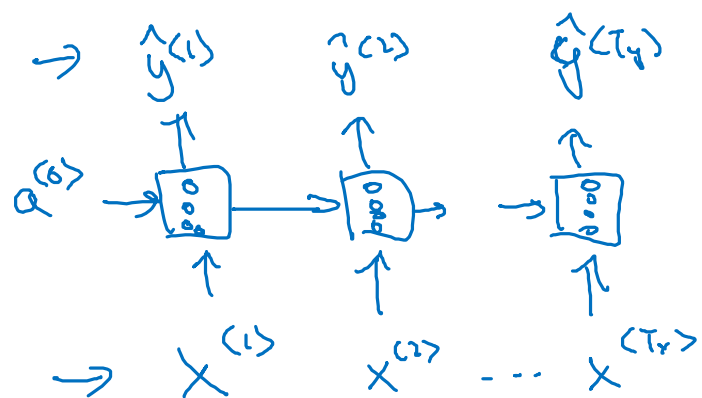
Running

Yesterday, Harry Potter
met Hermione Granger.

Andrew Ng

Examples of RNN architectures

$$T_x = T_y$$

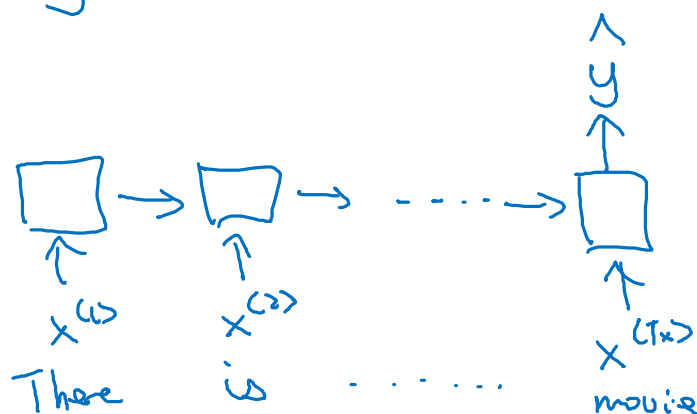


Many-to-many

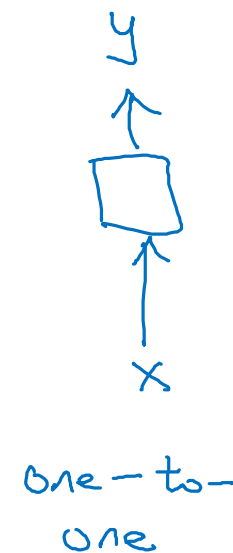
Sentiment classification-

$x = \text{text}$

$y = 0/1 \quad 1 \dots 5$

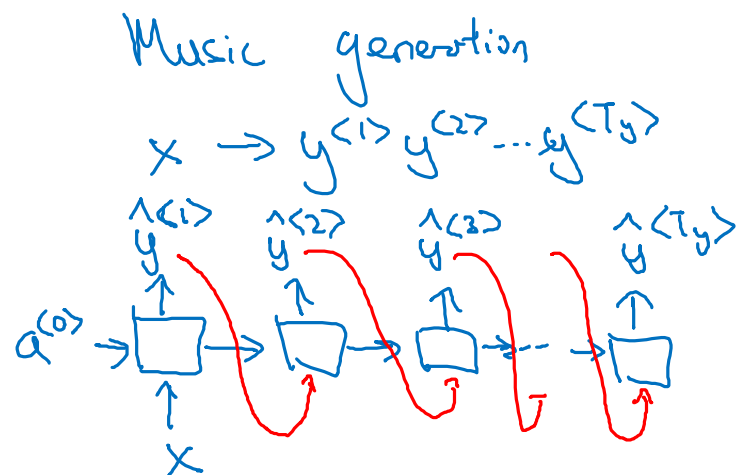


Many-to-one



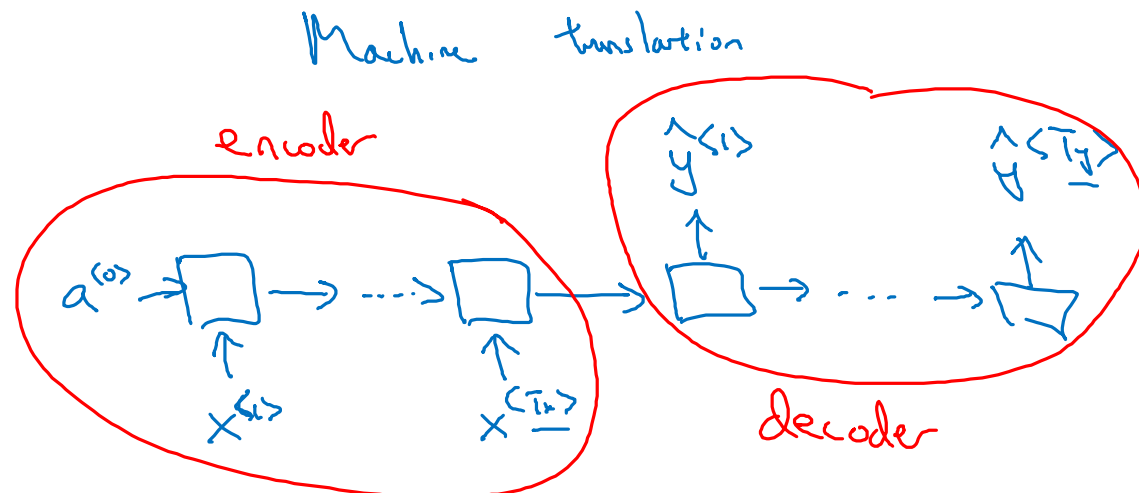
One-to-one

Examples of RNN architectures



One-to-many

$$x = \phi$$



Many-to-many

Summary of RNN types

