



deeplearning.ai

Recurrent Neural Networks

Notation

Motivating example

NLP

x: Harry Potter and Hermione Granger invented a new spell.

$\rightarrow x^{(1)} \quad x^{(2)} \quad x^{(3)} \quad \dots \quad x^{(t)} \quad \dots \quad x^{(9)}$

$T_x = 9$ length

$\rightarrow y:$

$y^{(1)} \quad y^{(2)} \quad y^{(3)} \quad \dots \quad y^{(9)}$

$T_y = 9$

$x^{(i)(t)}$

$T_x^{(i)} = 9$

15

$y^{(i)(t)}$
 \uparrow

$T_y^{(i)}$

Representing words

$x^{<t>}$

(x, y)

$x \rightarrow y$

x : Harry Potter and Hermione Granger invented a new spell.

$x^{<1>}$

$x^{<2>}$

$x^{<3>}$

...

$x^{<t>}$

$x^{<9>}$

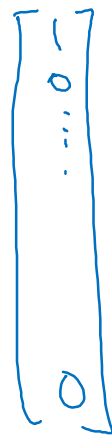
Vocabulary

a	1
aaron	2
...	...
and	367
...	...
harry	4075
...	...
potter	6830
...	...
zulu	10,000

<UNK> 10,000



$\in \{0, 1\}$



One-hot