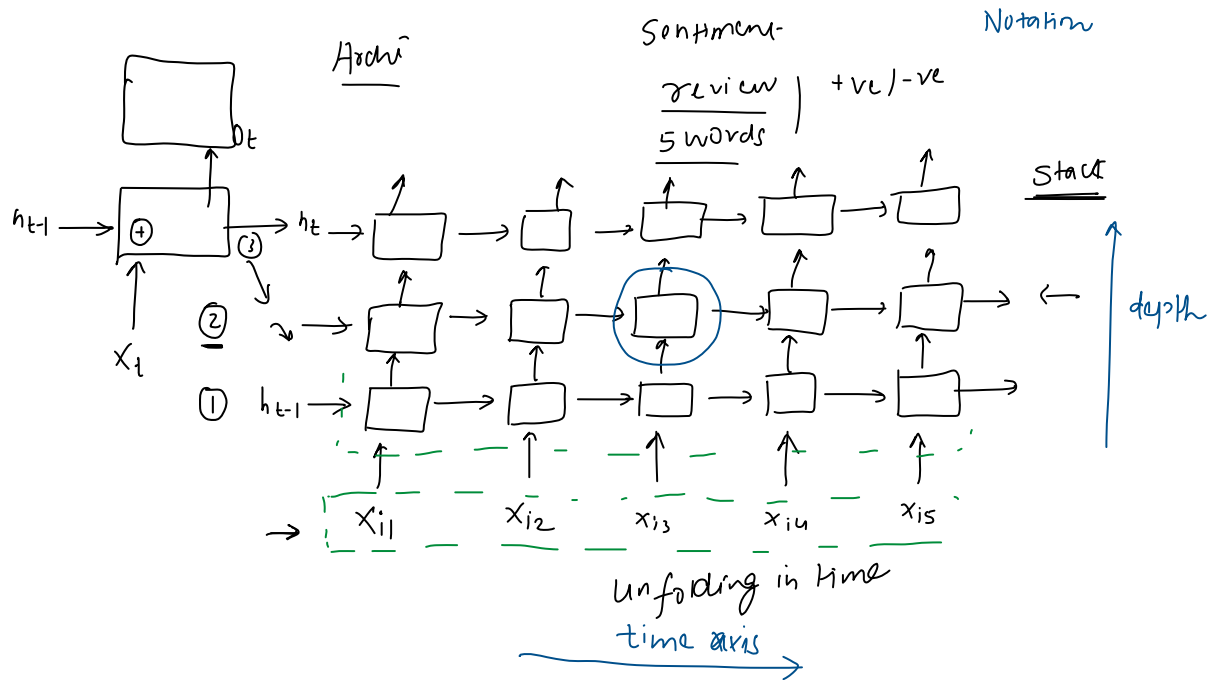
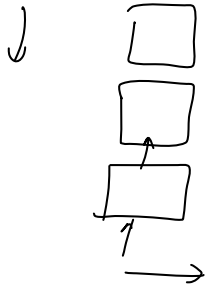


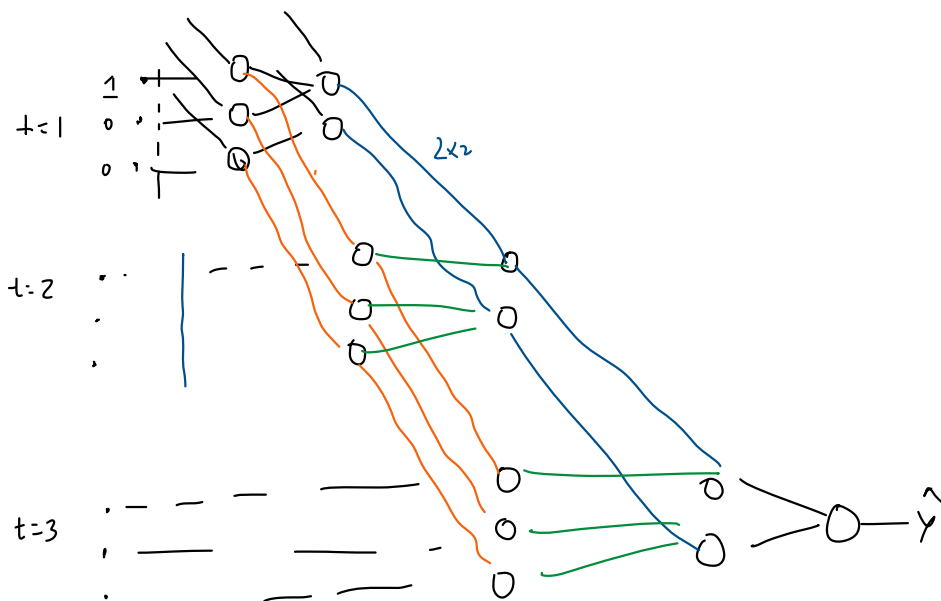
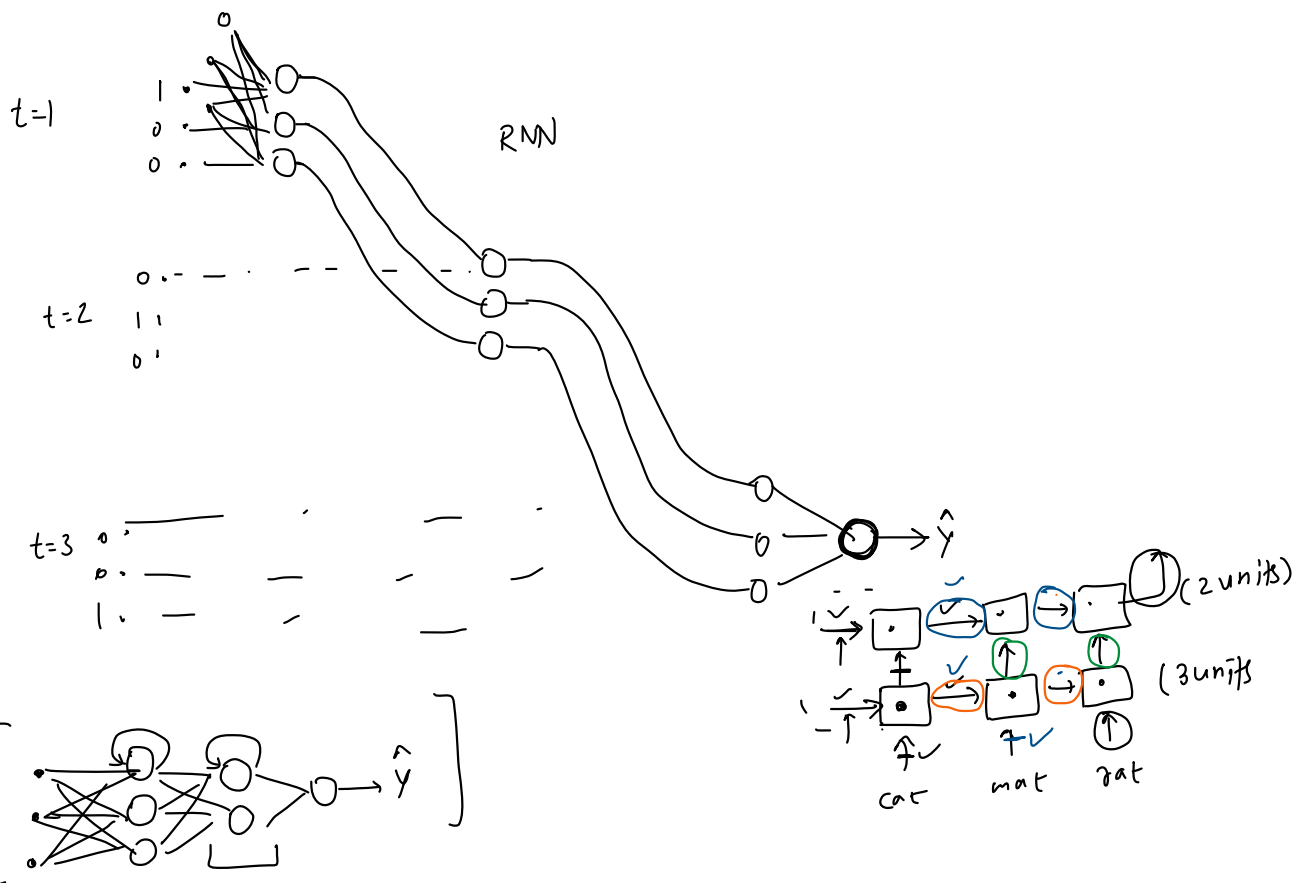
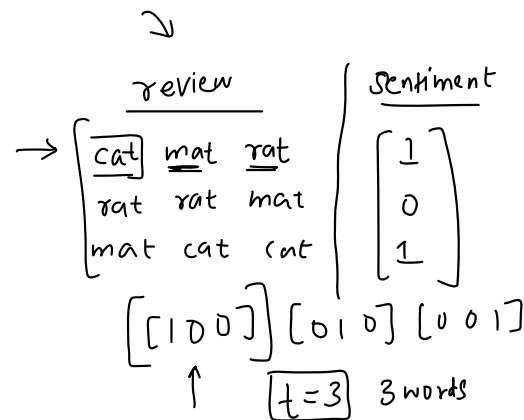
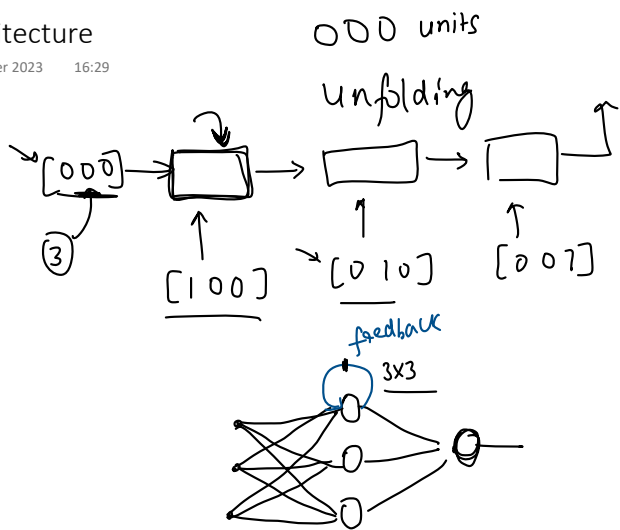
What is Deep RNN

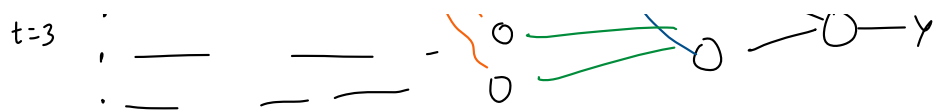
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ANN

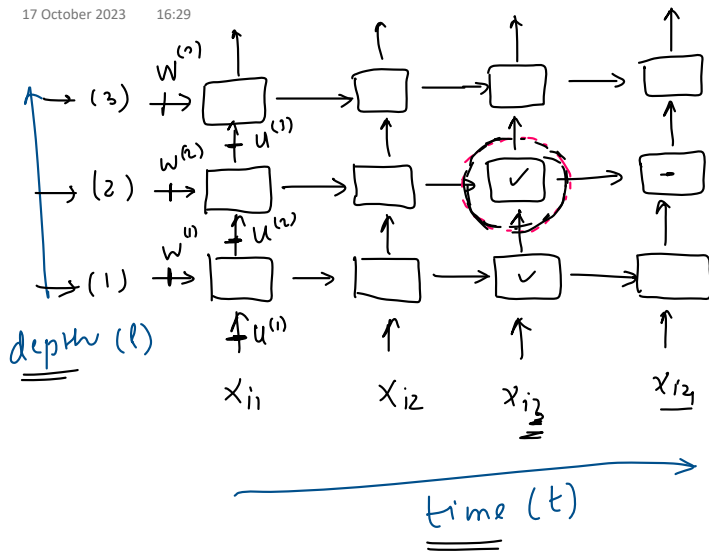






Notation

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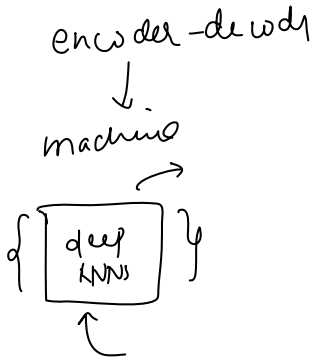


$$h_t^{(l)} = \tanh\left(w^{(l)} h_{t-1}^{(l)} + u^{(l)} h_t^{(l-1)} + b\right)$$

Why and When to use?

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- 1. Hierarchical Representation ✓
- 2. Customization for Advanced Tasks

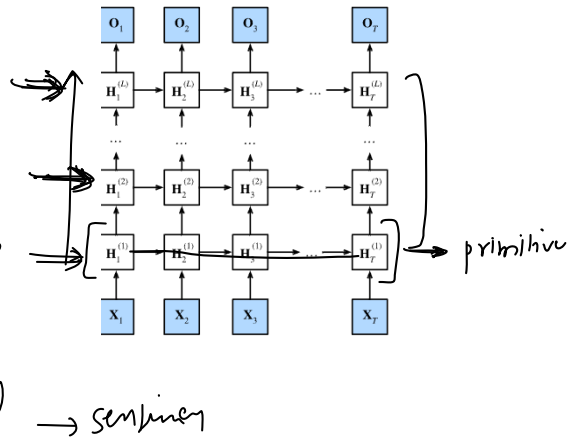


deep RNN

product

stack

sentence



When to use Deep RNNs?

Complex tasks
{ speech recog
Machine translation }

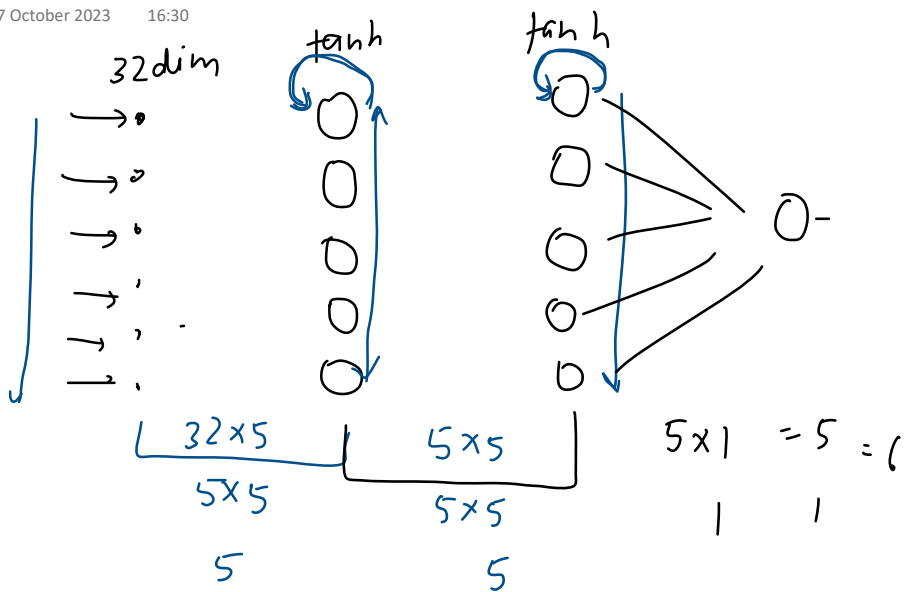
Large datasets
Overfitting

Computational

Simpler Models
↓
Deep RNN

Code Example

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→ embedding

$$10000 \times 32 = 320,000$$

Simple KNN 1

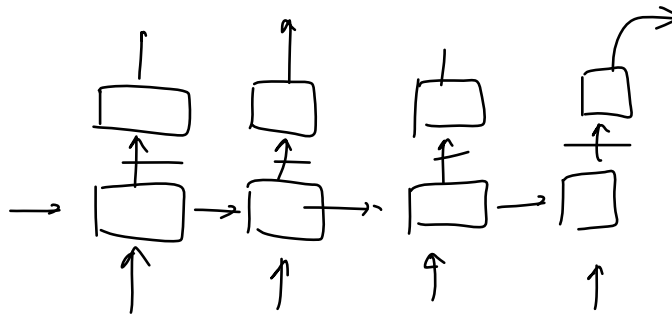
190

Simple KNN 2

35

Dense

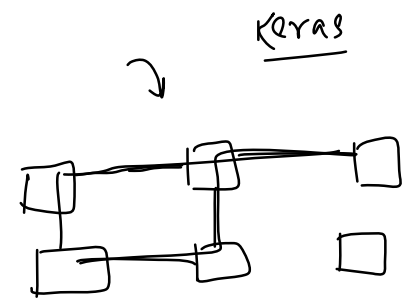
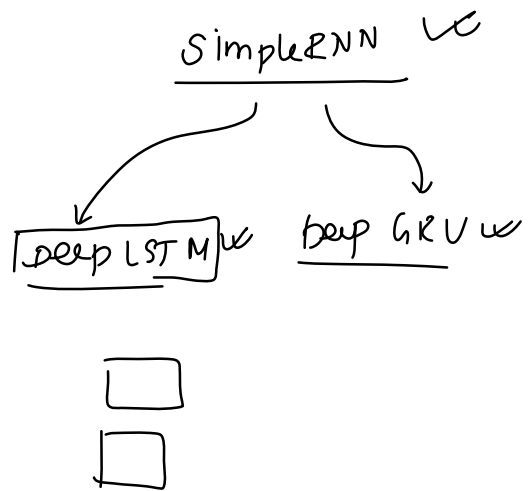
6



Variants

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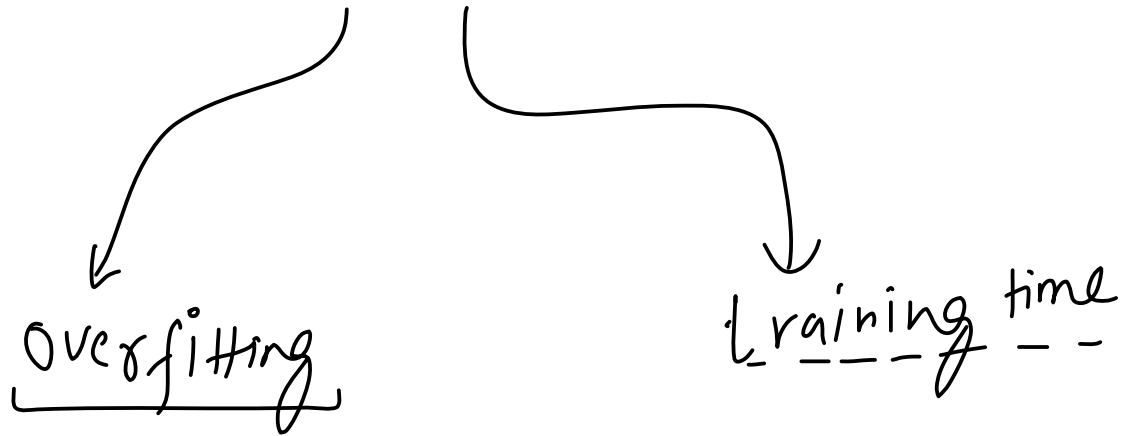


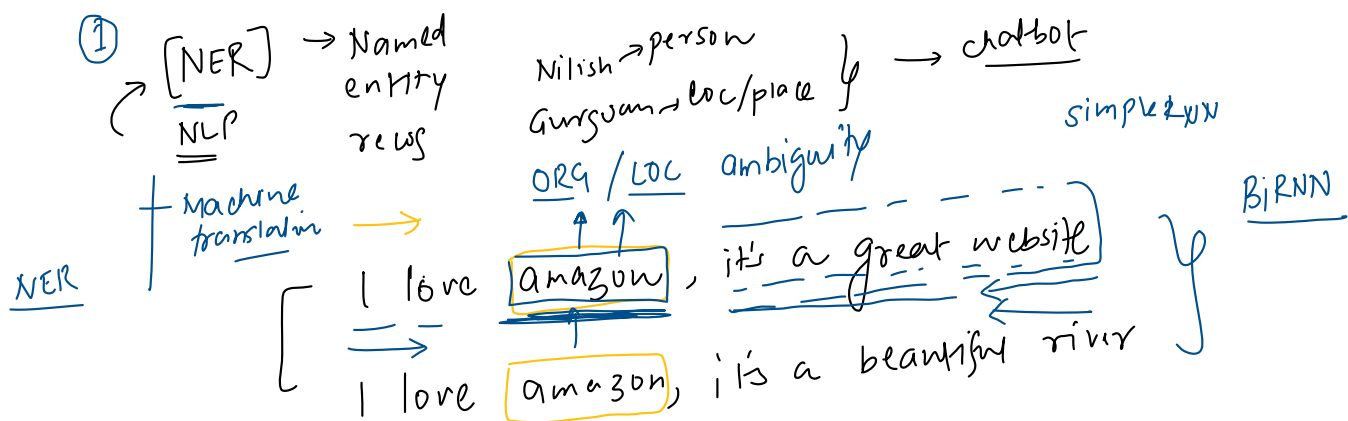
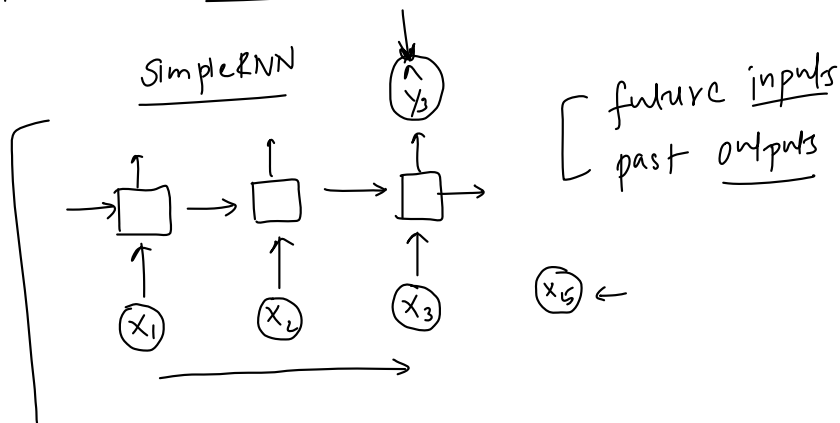
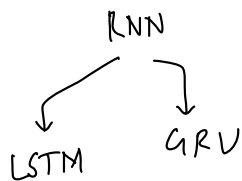
[Computation graph]

Propont

Disadvantages

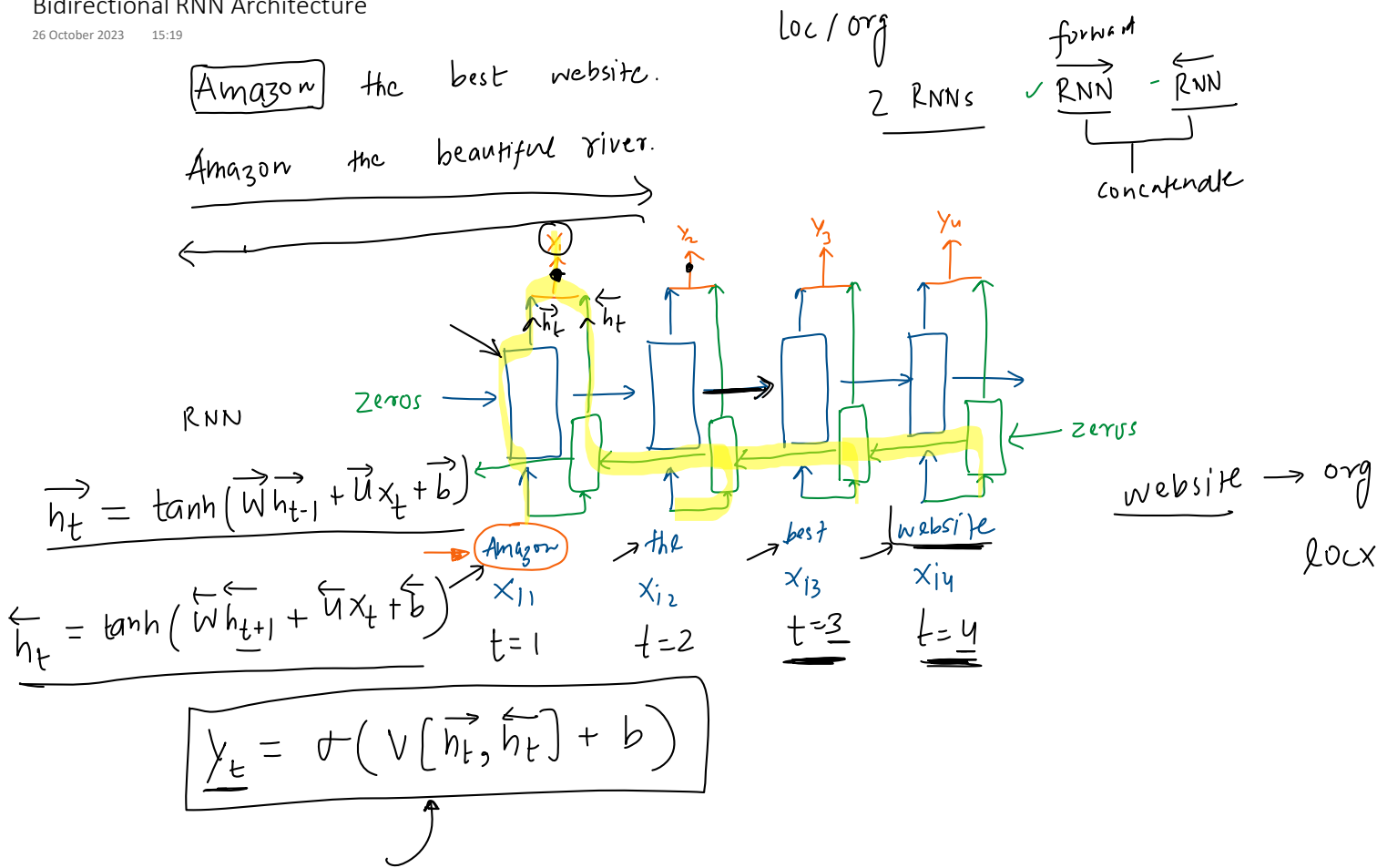
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Bidirectional RNN Architecture

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Code

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15:21

