Week 8

**Modelling Sequence Data**

Prediction of next data point from a history of data points. E.g. Weather perdiction

Diagram

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**Neurons with Recurrence**

In classic Feed Forward Neural Networks all the outputs correspond to inputs.

They have no correlation between them. i.e., Some inputs don’t affect other outputs at all.

Diagram

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Hence for recurrence we introduce a hidden state that conveys some data/information to the next output.

**Diagram

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**Vanilla Recurrent Neural Networks**

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Diagram

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Diagram

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Graphical user interface, text, application

Description automatically generated with medium confidence

**Sequence Modelling Problem: Predict Next Word**

Words are selected from the corpus of words with each word having a specific index.

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**Backpropagation through time (BPTT)**

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Diagram, box and whisker chart

Description automatically generatedChart, line chart

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**Long Short Term Memory Networks (LSTM)**

The parameter c is the sales state which controls the flow of information like a gate.

Diagram, schematic

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**RNN Application**

**Diagram

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Text

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