

# Sequence Processing

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Recurrent neural networks

Elman-RNN

Long Short Term Memory

Gated recurrent Units

Applications

# Motivation

- Thus far we have never integrated information over time.
- We want the ability to create internal memory.
- Consider the sentence: I live in Paris. I speak ...
- ... French.
- Clearly it is likely for someone in Paris to speak French.
- Memory should help networks taking Paris into account when deciding what language is spoken.

# Recurrent neural networks

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- Recurrent neural networks are often considered the goto choice for sequences.
- Chapter ten in [GBC16], for example, bears the title "Sequence Modeling: Recurrent and Recursive Nets".