

Dealing with Sequences: Recurrent Neural Network (RNN) layer

For a function that takes sequence $\mathbf{x}^{(i)}$ as input and creates sequence \mathbf{y} as output we had two choices for implementing the function.

The RNN implements the function as a "loop"

- A function that taking a **single** $\mathbf{x}_{(t)}$ as input a time
- Outputting $\mathbf{y}_{(t)}$
- Using a "latent state" $\mathbf{h}_{(t)}$ to summarize the prefix $\mathbf{x}_{(1 \dots t)}$
- Repeat in a loop over t

