



# LSTM RNNs

A crash course on GPU-backed  
LSTMs in Python, Haskell, and  
C++.

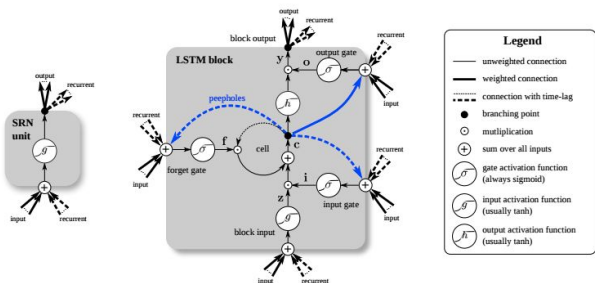


Figure 1. Detailed schematic of the Simple Recurrent Network (SRN) unit (left) and a Long Short-Term Memory block (right) as used in the hidden layers of a recurrent neural network.

Long-Short-Term-Memory RNNs are an slightly more complex Recurrent Neural Network. They help to overcome the *vanishing-gradient* problem that is so prevalent in vanilla RNNs.

- Implement LSTMs from scratch in Python, Haskell, and C++, with CUDA bindings for each.
- Generate character-level language models with each LSTM.
- Use trained models for a great good.

