**Introduction**

Having been out of fashion during …, artificial neural networks (ANNs) have since been rediscovered as promising tools for statistical language modelling. Statistical language models are probability distributions over a sequence of words (Zhai & Massung, 2016, p. 50). They are useful to any natural language tool that involves prediction, for example automatic speech recognition, machine translation, and text generation. It is this last application that we will focus on in this report.

How it works

State of the art / examples

Research questions

In this report, we will investigate how four parameters relating to RNN architecture affect the quality of the language model. This ‘quality’ is operationalised in two ways: the lowest categorical cross-entropy that the model achieved during training (objective), and the quality of a lyric generated by this model (subjective).

The four parameters under investigation are:

1. Vocabulary size
2. Number of layers (1, 2, 3)
3. Number of nodes (256, 512)
4. Drop-out rate (0.2, 0.5)