

Hidden Markov Model: HMM.

Say there is a stochastic process, that has a sequence. moves from one state to another. there is a probabilistic angle to it, based on which we can study the sequence of state.

If there are N states, then with an adjacency matrix of dimension $N \times N$, we can represent the transition from any state to any state.

What if the sequence of states are not observable? we observe certain things that can help us guess the state (observations) but not the state.

Now we have the sequence of observations which is a stochastic process, based on that we find out the underlying sequence of states.

Now we can predict the hidden state, sequence, or the sequence at its meaning.

Any process that has an underlying pattern which can't be observed but a manifestation of that can be observed can be modelled as HMM.

Given a script, find the language, tone, theme, who wrote it etc.