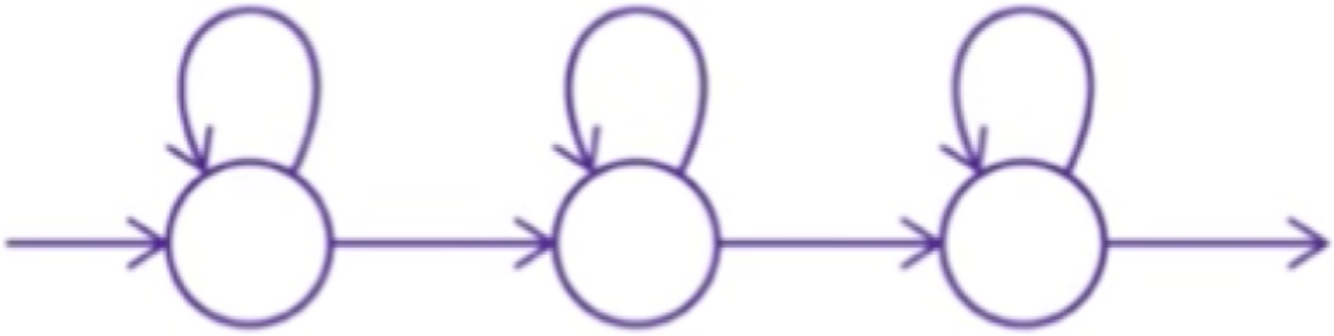
References: Traditional ASR

Traditional ASR

A bit of Computer History Museum nostalgia on Speech Recognition presents what we think of now as "Traditional" ASR:

Kai-Fu Lee (Apple) in 1993. Computer History Museum video.

Acoustic Models with HMMs



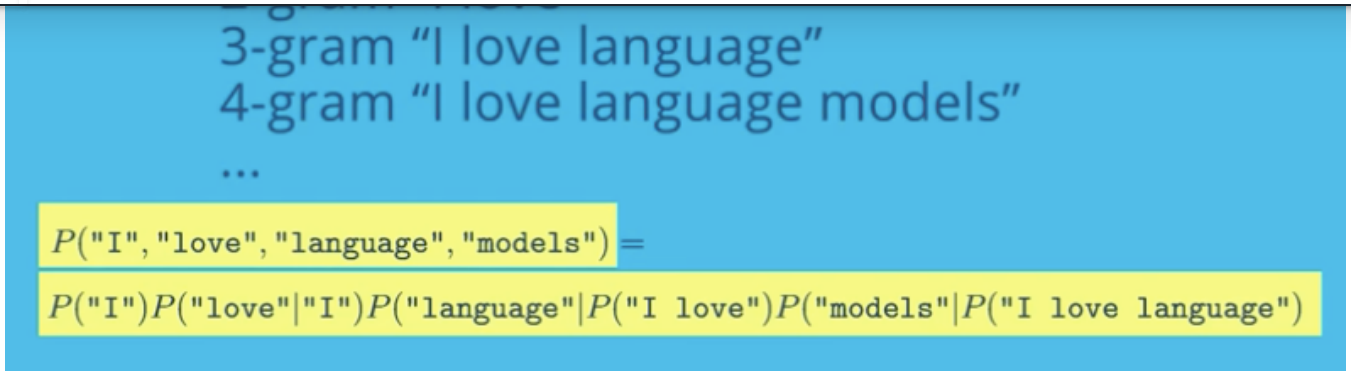
HMMs are the primary probabalistic model in traditional ASR systems. The following slide decks from Carnegie Mellon include very helpful and detailed visualizations of HMM's, the Viterbi Trellis, State Tying, and more from the Carnegie Mellon:

Raj, Bhiksha, and Rita Singh. "Design and implementation of speech recognition systems." Carnegie Mellon School of Computer Science (2011).

- slides - HMMs
- slides - Continuous Speech
- slides - HMM tying

N-Grams

References: Traditional ASR



N-Grams provide a way to constrain a series of words by chaining the probabilities of the words that came before. For more on creating and using N-Grams, see the references below:

Martin, James H., and Daniel Jurafsky. "Speech and language processing." International Edition 710 (2014). Chapter 4 Draft.

Jurafsky, Daniel. "CS124 - From Languages to Information". Stanford University.Language Modeling. Slides

NEXT