6.345 Spring 2003

Assignment 7
Suggested Readings

1. J. Bilmes, ``Graphical Models and Automatic Speech Recognition.'' In *Mathematical Foundations of Speech and Language Processing, Institute of Mathematical Analysis Volumes in Mathematics Series*, Springer-Verlag, 2003. This paper gives an overview of graphical models in general, as well as of their uses in speech recognition. The most relevant sections, for our purposes, are Sections 1, 2.1-2.5 (although the details of inference in 2.5 can be skipped), 3.4, 3.9, and 4-6.
2. G. Zweig, *Speech Recognition with Dynamic Bayesian Networks.* Ph.D. dissertation, U.C. Berkeley, 1998.
    This thesis develops the use of DBNs for speech recognition. Chapter 6 is the main chapter that discusses how DBNs can be configured for ASR.
3. J. Bilmes, ``What HMMs can do.'' UWEETR-2002-0003 (U. Washington Technical Report), Feb, 2002.
4. **Michael I. Jordan, "Introduction to Graphical Models" (draft version), Chapter 2.**

    This gives the very basics of graphical model structure, conditional independence, Bayes ball, etc. It is part of an introductory textbook, so it is particularly useful if you are unclear on any of the basic concepts from the lecture.