Towards a computational model of human speech perception. Partha Niyogi, Dept. of Computer Science, The University of Chicago, Hyde Park, Chicago, IL 60637, USA. [Full Paper Available on CD]

We describe briefly the motivation and philosophy behind an approach to speech recognition based on the notion of distinctive features. The first step in this approach is the reliable extraction of such features from the acoustic signal. We describe our research effort in this direction, outline recent progress and future challenges.