# Temporal Representations in a Connectionist Speech System

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Abstract: SYREN is a connectionist model that uses temporal information in a speech signal for syllable recognition. It classifies the rates and directions of formant center transitions, and uses an adaptive method to associate transition events with each syllable. The system uses explicit spatial temporal representations through de(cid:173) lay lines. SYREN uses implicit parametric temporal representa(cid:173) tions in formant transition classification through node activation onset, decay, and transition delays in sub-networks analogous to visual motion detector cells. SYREN recognizes 79% of six repe(cid:173) titions of 24 consonant-vowel syllables when tested on unseen data, and recognizes 100% of its training syllables.