# AUTOMATIC PROSODIC ANALYSIS FOR COMPUTER AIDED PRONUNCIATION TEACHING

**Paul Christopher Bagshaw**

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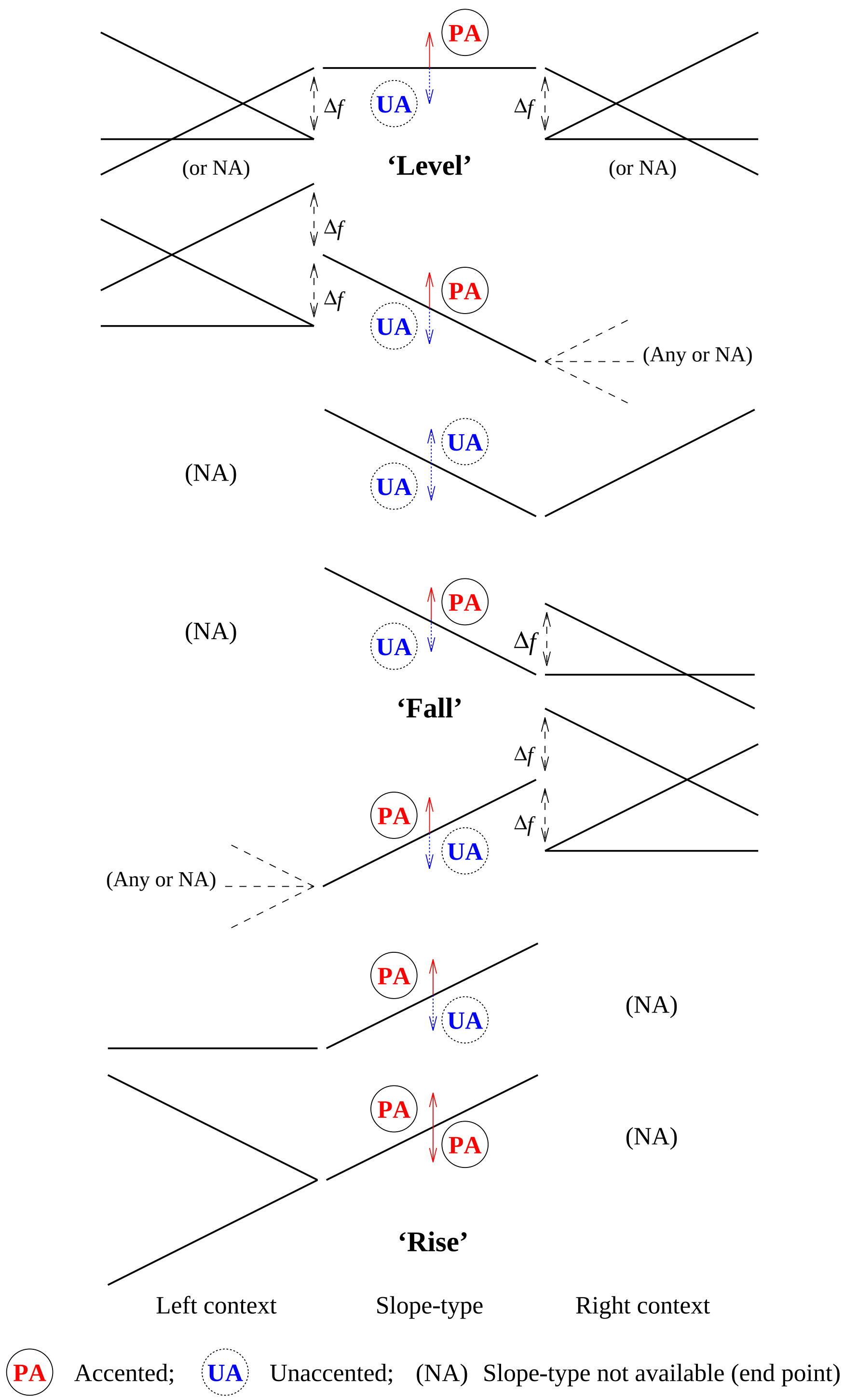
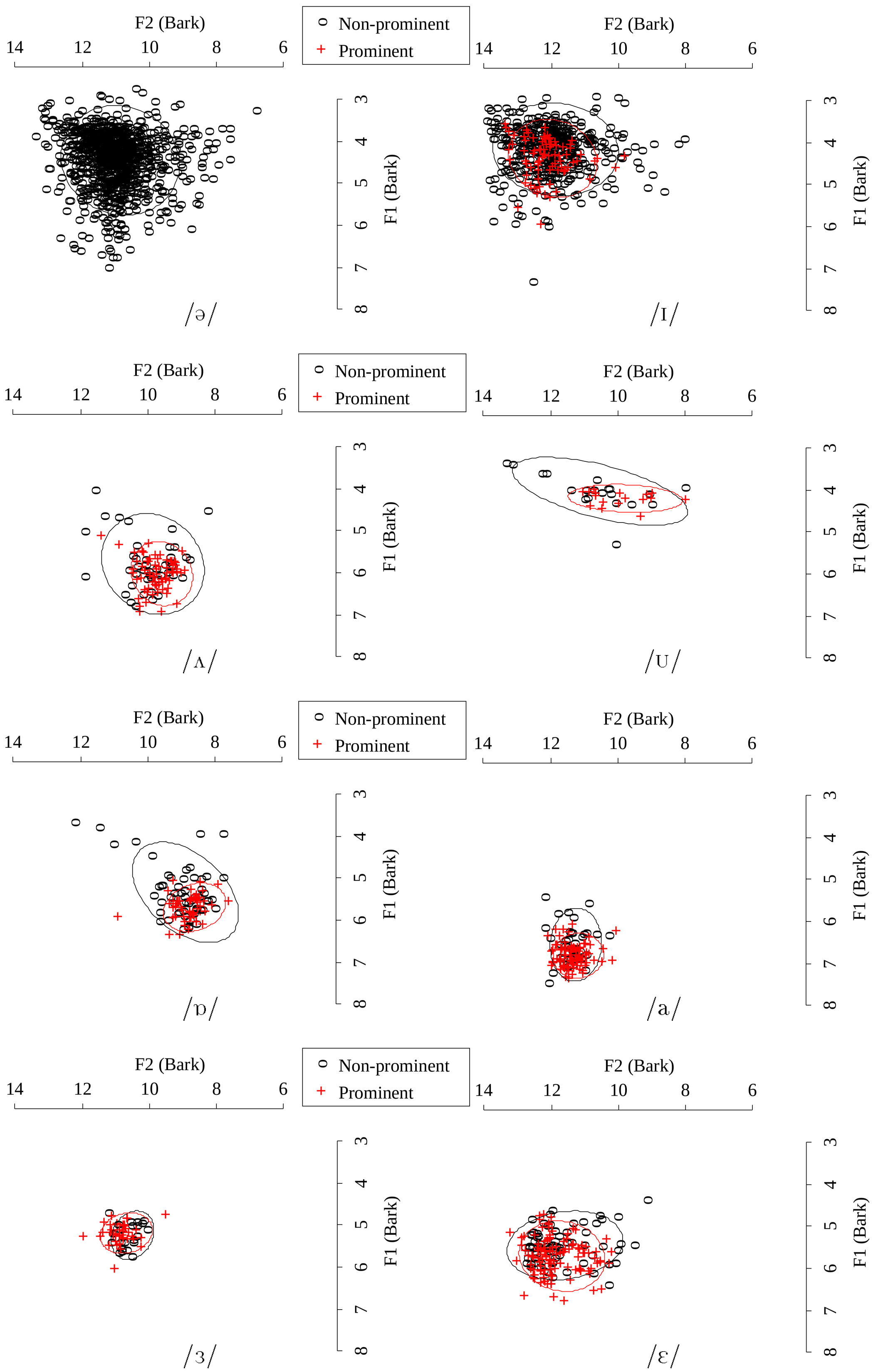



Figure 3.5: Pitch accent decision filter

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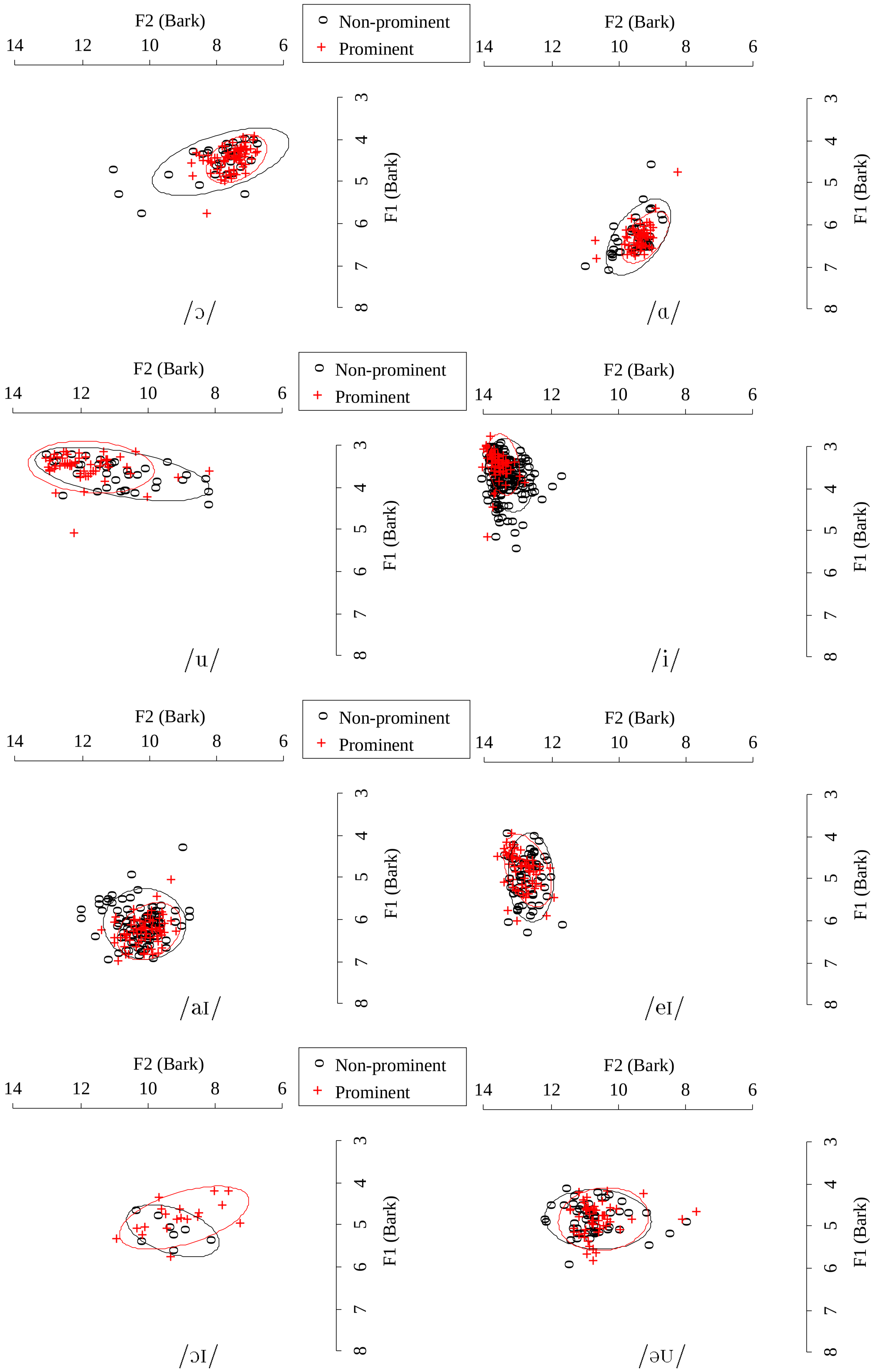


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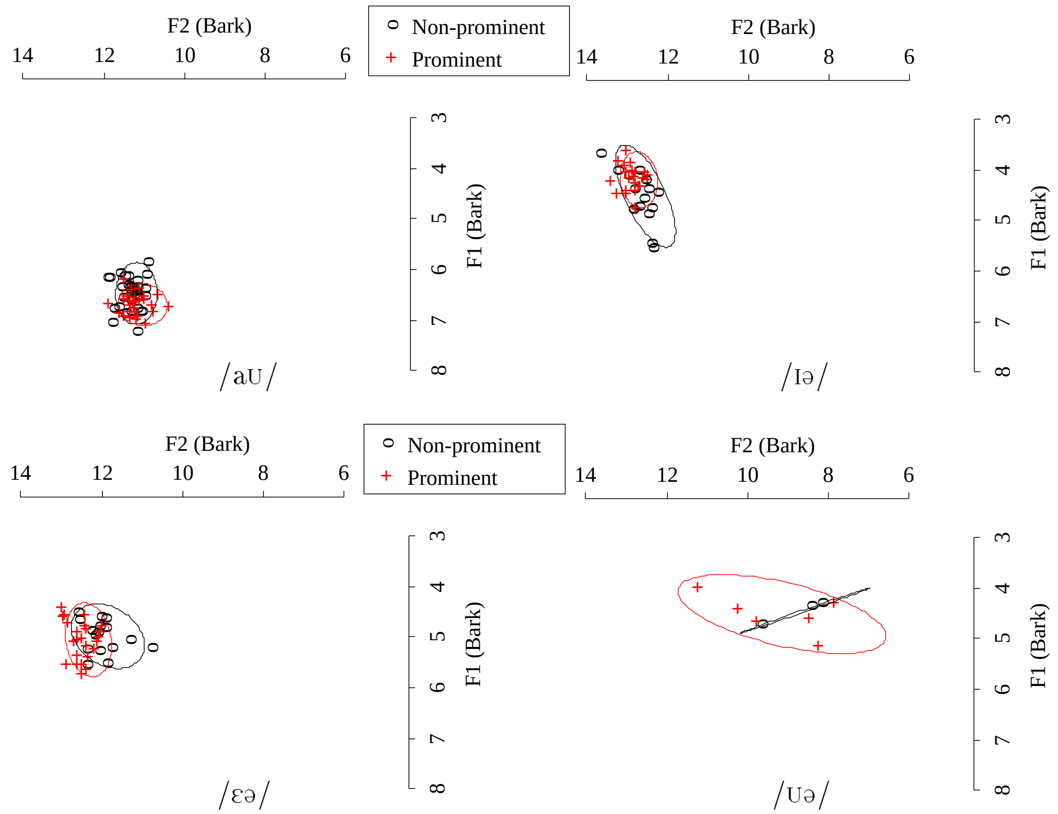


Figure 6.1: Vowel targets in prominent and non-prominent syllables

the trajectory features $C_{1,2,3}$. The vowel target models are calculated from frequency measurements of every vowel token (those corresponding to the nuclei of both prominent and non-prominent syllables) in the training data.

The quadratic discriminant score $Q_{vowel}$ is determined for each vowel token in the training data with respect to its corresponding vowel target model. This score is a weighted variance-normalised distance measure between the vector of features which characterise the vowel and the centroid of the respective vowel target model. Thus, $Q_{vowel}$ is a measure of how close the vowel is to its target.

It is assumed that vowels closer to their respective vowel target model correspond to the nuclei of prominent syllables. Under this assumption, $Q_{vowel}$ for a vowel in a prominent syllable is less than $Q_{vowel}$ for a vowel in a non-prominent syllable. Thus, in a