Prosodic features of stance acts

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While textual aspects of stance (attitudes/opinions) have been well studied in conversation analysis and computational models, acoustic-phonetic properties have received less attention. Recent work (2014, 2015) has found that variations in prosodic measures (speech rate, vowel duration, pitch, intensity) are correlated with stance presence and strength in unscripted speech, and stances with different discourse functions may be distinguishable by the shapes of their pitch and intensity contours. Building on these early findings, this presentation investigates prosodic properties of various stance-act types in spontaneous conversation (e.g., opinion-offering and soliciting, (dis)agreement, persuasion, rapport-building). The dataset contains over 32,000 stressed vowels from content words spoken by 40 speakers drawn from an audio corpus of dyads engaged in collaborative tasks. Speaker-normalized vowel duration, pitch, and intensity are automatically extracted from time-aligned transcriptions that have been hand-annotated for stance strength, polarity, and act type. Results show that changes in the prosodic measures combine to distinguish several notable stance-act types, including: weak-positive agreement, rapport-building agreement, reluctance to accept a stance, stance-softening, and backchanneling. Pitch and intensity contours over vowel duration are particularly illustrative, suggesting a future avenue in examining contours over whole stance acts.