

Range- and domain-specific exaggeration of facial speech

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Is it possible to exaggerate the different ways in which people talk, just as we can caricature their faces? In this paper, we exaggerate animated facial movement to investigate how the emotional manner of speech is conveyed. Range-specific exaggerations selectively emphasized emotional manner whereas domain-specific exaggerations of differences in duration did not. Range-specific exaggeration relative to a time-locked average was more effective than absolute exaggeration of differences from the static, neutral face, despite smaller absolute differences in movement. Thus, exaggeration is most effective when the average used captures shared properties, allowing task-relevant differences to be selectively amplified. Playing the stimuli backwards showed that the effects of exaggeration were temporally reversible, although emotion-consistent ratings for stimuli played forwards were higher overall. Comparison with silent video showed that these stimuli also conveyed the intended emotional manner, that the relative rating of animations depends on the emotion, and that exaggerated animations were always rated at least as highly as video. Explanations in terms of key frame encoding and muscle-based models of facial movement are considered, as are possible methods for capturing timing-based cues.