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Therapeutic Animatron: Interaction Framework for Making People Happy

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Abstract: There is an ongoing project to develop an interaction framework for creating animatronics creatures – therapeutic animatrons – which can elicit desired emotional states in humans. The acute need for such therapeutic devices stems from the growing aging population and increasing work and social stress. A real-time facial expression detection and gesture recognition system will assess the emotional state of a user. The assessed emotional state is used to derive an animatron (e.g. a cute teddy bear) controlled by servo motors. The system chooses one of the behaviours of Snow White’s seven dwarfs characters to adjust the emotional state of the user to the desired state. The best behaviour is selected using a Support Vector Machine classifier. There is massive potential for the incorporation of these sophisticated interaction frameworks within child education and psychiatry, as well as in relation to a number of other stress-related disorders in medicine more generally.