Project title: Unconstrained Facial Expression Recognition in Still Images and Video Sequences using Random Forest Classifiers

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Project summary:

The aim of this project is to construct and implement a comprehensive facial expression detection and classification framework through the use of a proprietary face detector (PittPatt) and a novel classifier consisting of a set of Random Forests paired with either support vector machine or k-nearest neighbour labellers. The system should perform at real-time rates under unconstrained image conditions, with no intermediate human intervention. The still-image Binghamton University 3D Facial Expression database was used for training purposes, while a number of other expression-labelled video databases were used for testing. Quantitative evidence for qualitative and intuitive facial expression recognition constitutes the main theoretical contribution to the field.

Publications: