

UW CENTER FOR PATTERN ANALYSIS AND MACHINE INTELLIGENCE

GRADUATE SEMINAR SERIES

Facial Expression Recognition Using Game Theory

Speaker: Kaushik Roy

Date: May 9, 2012

Time: 4 pm – 4:30 pm

Place: E5 (5128) Refreshments will be served

Abstract :

Robust lip contour detection plays an important role in Facial Expression Recognition (FER). However, the large variations emerged from different speakers, intensity conditions, poor texture of lips, weak contrast between lip and skin, high deformability of lip, beard, moustache, wrinkle, etc. often hamper the lip contour detection accuracy. The novelty of this research effort is that we propose a new lip boundary localization scheme using Game Theory (GT) to elicit lip contour accurately from a facial image. In addition, we also use GT for selecting the optimal set of facial features. We apply the Extended Contribution-Selection Algorithm (ECSA) to reduce the dimensionality of facial features using a coalitional GT-based framework. We have conducted several sets of experiments to evaluate the proposed approach. The results show that the proposed approach has achieved recognition rates of 93.1% and 92.5% on the JAFFE and CK+ datasets, respectively.

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