Affect Segmentation and Recognition by Fusion of Facial Features and Body Gesture

Shizhi Chen and YingLi Tian
Department of Electrical Engineering, the City College of New York, New York, NY 10031
DHS Summer Research Team Program for MSI

Motivation
- Lie detection
- Person identification
- Image retrieval and video indexing
- Pain assessment

Approach

Feature Extraction
- Interest points --- Harris corners
- Motion History Image (MHI)
- Face Active Appearance/Shape Model (AAM/ASM)
- Skin color detection
- Hand tracking
- Feature representation

Future Research
- Uncertainty Correctly Classified
- Boredom Misclassified as Puzzlement

Six Basic Expressions
- Disgust
- Fear
- Joy
- Surprise
- Sadness
- Anger

FABO Database
- Different ethnic background and ages
- Both body and face cameras

Multi-Modal Affect Recognition
- Face + Voice
- Face + Gesture (summer research)

Temporal Segment
- What is temporal segment
- Approach
- Features
- Result

Expression Recognition

Acknowledgement
This project was funded through the Summer Research Team Program for Minority Serving Institutions from the Department of Homeland Security, Science and Technology Directorate, Office of University Programs. Thanks to Tami Carpenter and Patti Obenour to make this happen. We also thank Dr. Dimitris Metaxas and Dr. QingShan Liu for the close collaboration. The FABO Database was provided by Dr. Hatice Gunes.

Reference