

多姿態人臉表情辨識系統

Pose-Variant Facial Expression Recognition System

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In recent years, one of the most attractive research areas in human-robot interaction is automated facial expression recognition. Through recognizing the facial expression, a robot can interact with human in a more natural manner. Even though many facial expression recognition methods have been reported, robustness of the system against pose-variant, illumination and color change is still a challenge for practical applications. In this study, we focus on the facial pose-variant problem.

In order to test the proposed method, the IMM face database was adopted. Test results show that the recognition rate of the proposed method is 90%. Furthermore, in order to evaluate the performance for practical applications, this study also built a low resolution database using a CMOS image sensor. Experimental results show that the recognition rate is 84% with the self-built database.

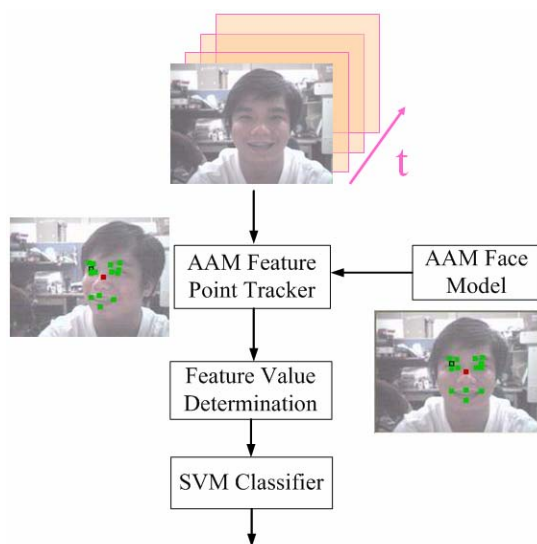


Fig. 1. Block diagram of the pose-variant facial expression recognition system.



Fig. 2. Self-built pose-variant facial expression database