This paper introduces a new technique for face recognition in controlled domains by learning additional information using heuristics. Multiple faces, some of which with very low resolution and blurred arounds are recognized by learning heuristics over time. Heuristics derived from seat to student correlation, student to student correlation, dress color, and skin color have been
proposed. The algorithm Heuristic Supplemented PCA (HSPCA) has been tested over several hours of different video sequences gathered from classrooms with around 30 students in each class. It has been observed that the performance improves over time, with the recognition rate using heuristics contributing significantly as time progresses.

Reference

- Laurentz Wiskott, Jean-Marc felloous, “Face Recognition by Elastic Bunch Graph Matching,” In Intelligent Biometric Techniques in Fingerprint and Face Recognition, 1999.
- Yossi Rubner, Carlo Tomasi, and Leonidas J. Guibas, “The Earth Mover’s Distance as a Metric for Image Retrieval

Index Terms

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