ABSTRACT

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Research in face recognition is motivated not only by the fundamental challenges this recognition problem poses but also by numerous practical applications where human identification is needed. Face recognition, as one of the primary biometric technologies, became more important owing to rapid advances in technologies such as digital cameras, the Internet and mobile devices, and increased demands on security. Face recognition has several advantages over other biometric technologies: It is natural, non intrusive, and easy to use. There are two predominant approaches to the face recognition problem: geometric (feature based) and photometric (view based). A classification algorithm, called VF15 (Voting Feature Intervals), is developed and applied to problem of face recognition with partition based on histogram. VF15 represents a concept in the form of feature intervals on each feature dimension separately. Classification in the VF15 algorithm is based on a real-valued voting. Each feature equally participates in the voting process and the class that receives the maximum amount of votes is declared to be the predicted class. The performance of the VF15 classifier is evaluated empirically in terms of classification accuracy. Conclusion of this research indicates that VF15 can be used for face recognition with high accuracy the level.

Keywords: voting feature intervals 5 (VF15), classification, face recognition.