Note on CASIA-3D FaceV1

1. Introduction

Of all the biometrics features, face recognition remains one of the most active research topics in pattern recognition. In the past several decades, most work focuses on the source of 2D intensity or color images. Since the accuracy of 2D face recognition is influenced by variations of poses, expressions, illuminations and subordinates, it is still difficult to develop a robust automatic 2D face recognition system. The 3D facial data can provide a promising way to understand the characteristics of the human face in 3D domain, and has potential possibility to improve the performance of the recognition system. And more and more researchers focus on 3D face recognition in the past few years. However, since the 3D cameras are not as common as 2D cameras, it is expensive to build a public 3D face database, which brings the difficulty to validate the proposed methods in a uniform platform. Therefore, we are pleased to release a complete 3D face database, which is aimed to be a public platform in testing the algorithms in 3D face recognition or others.

2. Brief Descriptions of the Database

Between August 2004 and September 2004, we collected a 3D face database consisting of 4624 scans of 123 persons using the non-contact 3D digitizer, Minolta Vivid 910, as shown in Fig.1. During building the database, we consider not only the single variations of poses, expressions and illuminations, but also the combined variations of expressions under illumination and poses under expressions, as shown in Fig.2, Fig.3 and Fig.4. To the subjects with glasses, we will collect one additional scans with glasses. Thus, each person contains 37 or 38 scans. And from each scan, one 2D color image and one 3D facial triangulated surface are also generated. We aims to build a complete 3D face database, which is further driven to be a public platform in testing the algorithms in 3D face recognition or others.
Figure 1 Capturing scenes of CASIA 3D Face Database

Figure 2 Illumination variations of the CASIA 3D Face Database

Figure 3 Expression variations of the CASIA 3D Face Database
3. Copyright Note and Contacts

The database is released for research and educational purposes. We hold no liability for any undesirable consequences of using the database. All rights of the CASIA database are reserved. Any person or organization is not permitted to distribute, publish, copy, or disseminate this database. In all documents and papers that report experimental results based on this database, our efforts in constructing the database should be acknowledged as: “Portions of the research in this paper use the CASIA-3D FaceV1 collected by the Chinese Academy of Sciences' Institute of Automation (CASIA)” and a reference to “CASIA-3D FaceV1, http://biometrics.idealtest.org/” should be included.

Publications

and Pattern Recognition (CVPR) 2007.


