A unique framework is proposed, in which the analysis of 3D faces is carried out on a readily available ORL database. The work is executed on different steps of preprocessing, feature extraction, face restoration, face classification and face recognition. In this novel framework, radial curves are applied for representing the facial surface. This representation shows robustness to various challenges such as occlusions (i.e. wearing glasses, growth of hair), different poses, expressions, and missing parts due to illumination. The face is represented by radial curves on it, starting from nose to the end of the face which helps in further comparison of the face with their corresponding curves. Further Neural Network is employed in this system. The performance analysis is carried out for radial curve based system and neural network.
Face Recognition using Radial Curves and Back Propagation Neural Network for Frontal Faces under Various Challenges

References

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**Index Terms**

Computer Science  
Image Processing

**Keywords**

Occlusion; Pose Variation; Radial Curves; Neural Network