Pose Invariant Face Recognition using Virtual Frontal

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Abstract - Literature review revealed that the performance of face recognition algorithms degrades severely when the pose of the probe face is different from the gallery face. This paper presents a solution to this bottleneck by generating the virtual frontal view of the face image from any given non-frontal view of the face using linear operator and regression techniques. The linear operator generated using pseudo-inverse is used for mapping between the non-frontal face and the frontal view of the face image. The viewing angle or the pose is automatically estimated using Artificial Neural Network (ANN) approach. A two -layered neural network ensemble is used as a classifier for pose estimation. GTAV database is used for experimentation.