



# Exploring Local Deep Representations for Facial Gender Classification in Videos

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## Abstract

*Gender recognition in videos is a challenging task that has received limited attention in recent years. To tackle this problem, we propose to explore the use of intermediate features of a Convolutional Neural Network (CNN) with a component-based face representation methodology. With this approach we intend to exploit the gender information provided by different face parts. The features extracted from video key frames are combined with two different strategies to preserve the temporal information, and Random Forest classifiers are employed to obtain a final gender prediction for a video sequence. Our results on the McGill and COX datasets show that our proposal outperforms the end-to-end CNN approach and, in the McGill dataset, 100% of accuracy was obtained.*

**Keywords:** *Soft-biometrics, Gender classification Video face analysis, Deep learning representation*

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