

Age and Gender Recognition

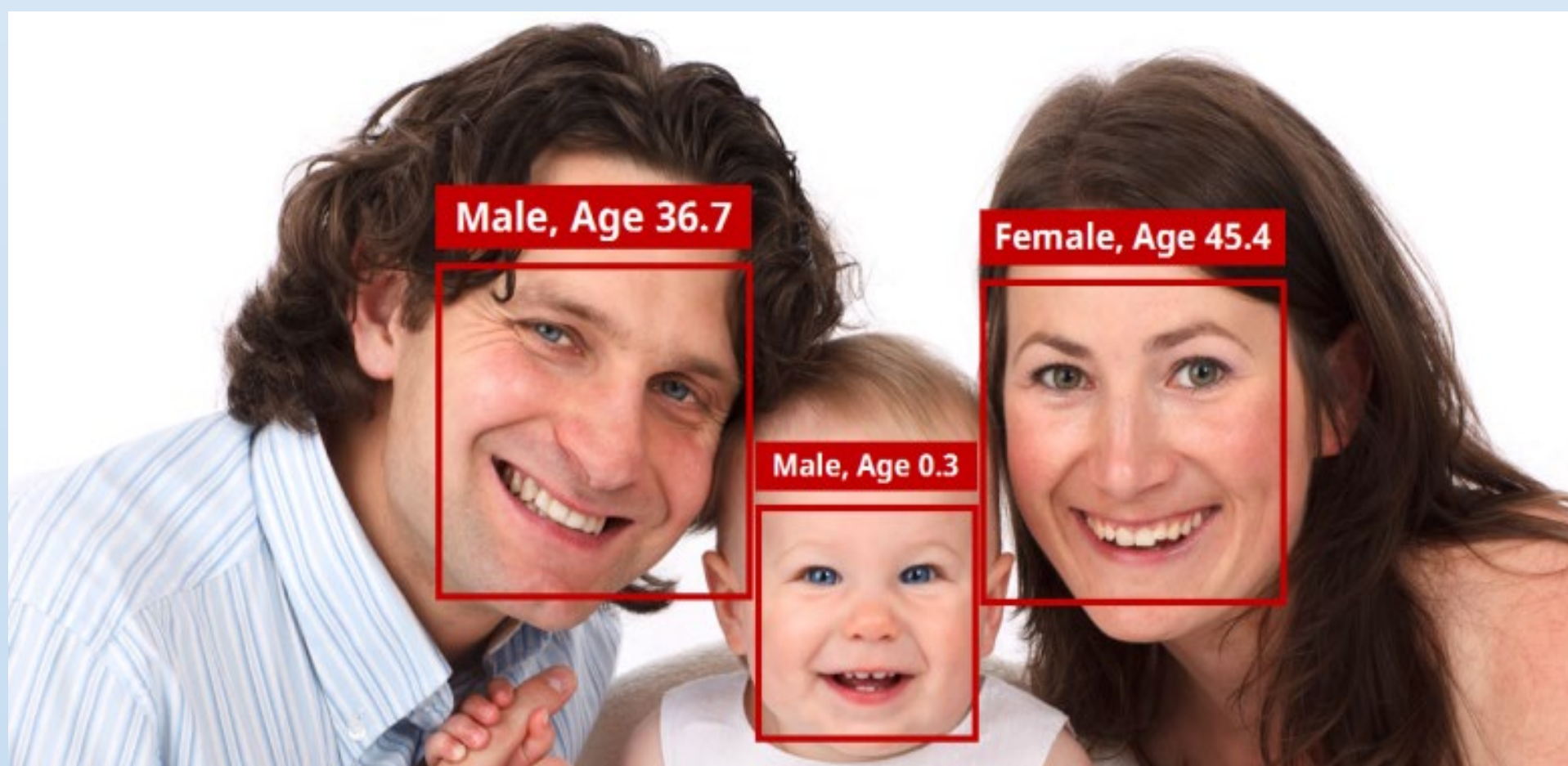
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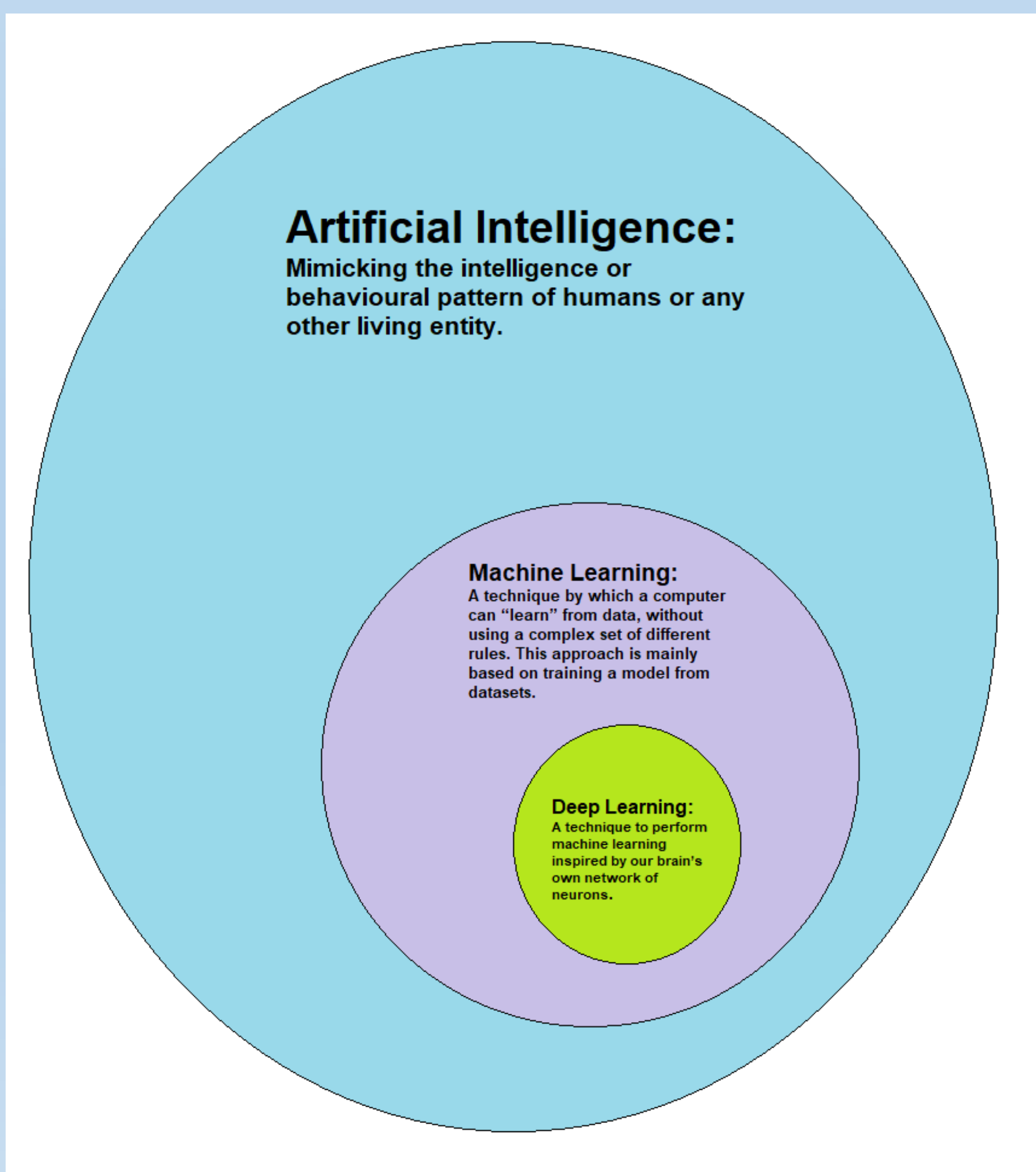
Introduction

Since the growth of social channels and social media, automated age and gender detection has been relevant to a growing number of applications. Existing approaches' performance on real-world photographs, however, is still woefully inadequate, especially when contrasted to the enormous advances in efficiency reported recently for the similar job of facial recognition. We show in this paper that using deep-convolutional neural networks (CNN) to learn representations can result in a significant improvement in performance on certain tasks. In a gender recognition approach, the information on the face hold a lot of information. The evolution of ideas aids in the determination of particular limits. Age classification is a multi-class issue in which the years are divided into categories. It's difficult to put together the photographs because people of all different ages have different face features. Procedures for determining the age and gender of multiple faces are followed by a variety of approaches. The convolution network extracts features from the neural network. The image is processed into one of the age classes based on the prepared models.



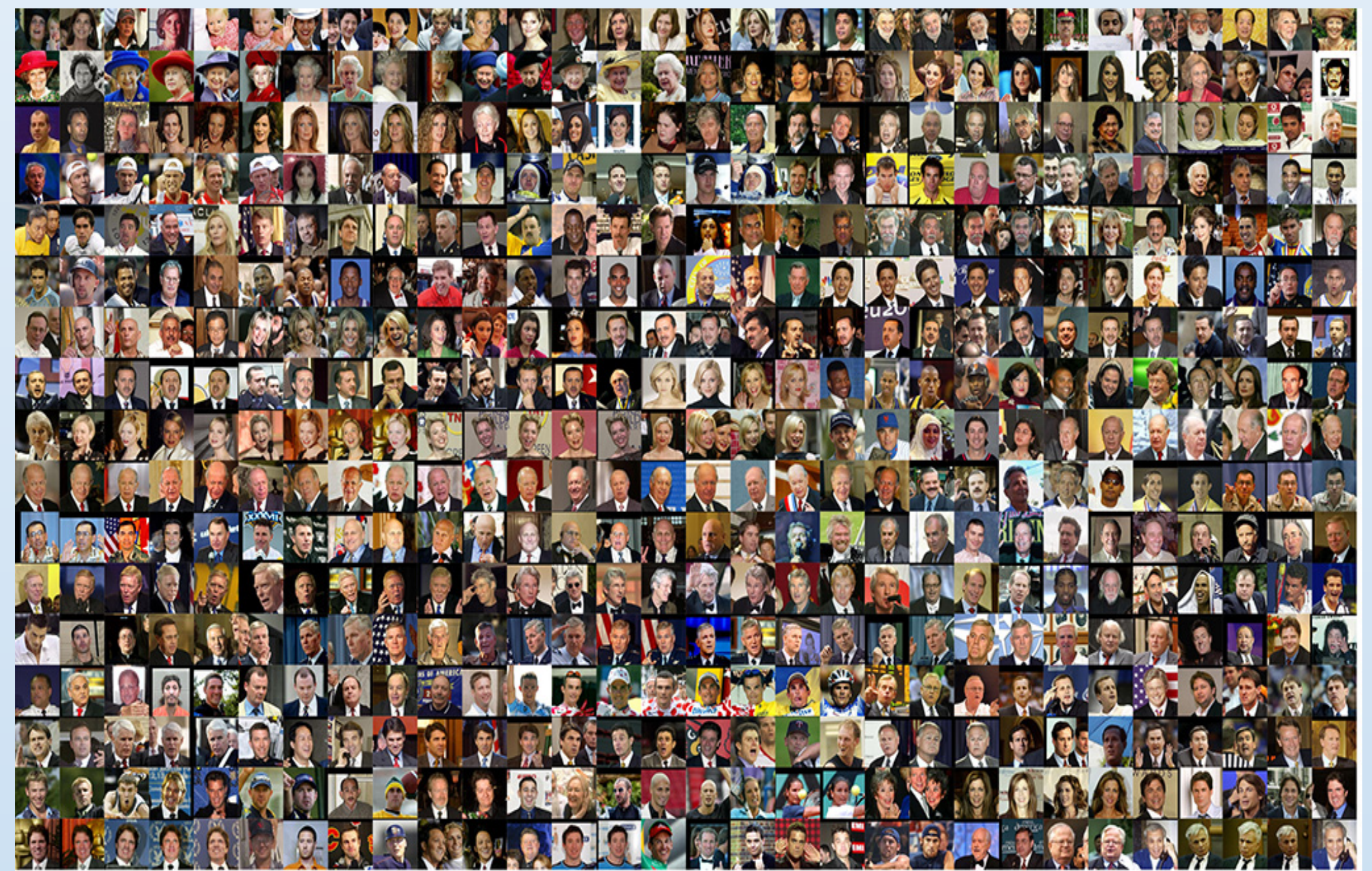
Research Hypothesis

The main objective of this article is to use the provided data set to determine age and gender using deep learning model that adopts the mechanism of self-attention, differentially weighting the significance of each part of the input data.



Data Set

The dataset used is the Adience dataset. This dataset serves as a benchmark for face photos and is inclusive of various real-world imaging conditions like noise, lighting, pose, and appearance. The images have been collected from Flickr albums and distributed under the Creative Commons (CC) license. It has a total of 26,580 photos of 2,284 subjects in eight age ranges (as mentioned above) and is about 1GB in size.



Initial Step/Tools and Technologies

I am going to use Deep Learning to accurately identify the gender and age of a person from a single image of a face. The predicted gender may be one of 'Male' and 'Female', and the predicted age may be one of the following ranges- (0 – 2), (4 – 6), (8 – 12), (15 – 20), (25 – 32), (38 – 43), (48 – 53), (60 – 100) (8 nodes in the final softmax layer).

****Tools and Technologies****

Jupyter (Python)

Deep Learning Libraries (Tensor Flo, Keras, OpenCV, Transformers)

