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Automated Recognition of Facial Expressions with Neural Networks

Artificial intelligence can be leveraged to evaluate how facial expressions will be perceived by others. A deep learning neural network is used to generate facial vectors for each image of a person. Associated traits, including attractiveness, competence, etc., are rated by participating individuals. A model is trained to analyze each image's deviation from baseline traits, or the average of all other photos, based on facial vectors. This technology can be useful for helping individuals select appropriate photos for different online settings, as well as observe and assess "first impressions" in real-time.

Applications

- Picture selection for social and professional websites
- Real-time feedback for how photos or streamed video may be perceived

Advantages

- Robust and accurate predictions of perceived facial expressions
- Multiple dimensions underlying facial judgement evaluations
- Scores images relative to other photos of the individual, not among other people
    - Focus is on within-person variation, not between-person variation
- Still images or real-time video can be analyzed

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