Using deep CNNs to prove that I look better than Tom Cruise and Shah Rukh Khan combined

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Abstract

Convolutional Neural Networks (CNN) have been used in the past to solve problems in many areas such as image classification, video analysis and drug discovery. However, no past work has considered using CNNs to prove that I look better than Tom Cruise (TC) and Shah Rukh Khan (SRK) combined. In this paper, I use a novel deep CNN architecture, Image2Float, and conduct surveys to prove conclusively that I indeed do look better than TC and SRK combined. 100% of the valid survey participants answer in the favour of the proof.

1 Introduction

Tom Cruise is a popular American actor and producer [5]. Shah Rukh Khan is an Indian actor, film producer, and television personality [4]. Popular public opinion considers these personalities attractive [2]. Refer to the Quora threads titled 'Do you think Shah Rukh Khan is handsome?' [1] and 'Why is Tom Cruise known as the most good-looking man on the planet?' [3] for detailed analyses. This implies, that when they are 'combined', the resultant personality will be drop dead gorgeous.

Image compression has been a long studied problem in computer science. Methods using deep neural networks for image compression have surpassed traditional codecs, achieving better compression ratio and reconstruction quality. In this paper, I train a deep CNN, Image2Float, with around 7 million parameters to compress 200 X 200 RGB images down to a single floating point number, realizing an unprecedented compression ratio of 120000. I urge the readers to ignore the fact that Image2Float was overfit on a set of 10 images, (5 TC + 5 SRK) to obtain these results. Refer to the Appendix for details on the model architecture, whose design, similar to most of the past work on Machine Learning, was a result of hope and randomness.

Figure 1 shows an outline of the main proof. The first line shows that SRK's image has been compressed down to a value of 0.5834 using the trained Image2Float network. TC's image has been compressed down to a value of -3.116. The combination (by summation) of the two encoded values is -2.538. Decoding the combined value using Image2Float yields the image shown in Figure 2.

I conducted an elaborate survey involving a total of 4 people to rank the image of the fictional personality, Cruise Khan (CK), in Figure 2 and my own image on an attractiveness scale from 0 to 10. My image used in the survey has not been included in the paper to respect the double blind nature of this prestigious conference. Unfortunately, 3 out of the 4 survey participants ranked my image below CK's stating, "There is no face in the world, real or fictional, that can be uglier than yours". I, the author, concluded that these responses are clearly biased against me and therefore decided to drop them from the final survey. The only unbiased remaining participant, me, agree that my own image ranks above Figure 2. This implies that 100% of the valid survey results agree that I look better than TC and SRK combined, thereby concluding the proof.

2 Appendix

Model Architecture: Figure 3 shows the layers in Image2Float, along with the number of parameters in each layer. I (mis)used 2 Nvidia RTX 2080 Ti cards to train Image2Float for this novel proof.

Code: As per tradition followed in the field, I have uploaded my undocumented and unclean code to GitHub (https://github.com/SagarB-97/Image2Float). I would like to confirm that the GitHub repository exists just so the paper can get past the reviewers who seek for an open source repository. It is practically unusable by the readers unless they have acquired the patience to struggle with it and set it up, which is only attainable after years of meditation in the Himalayas.

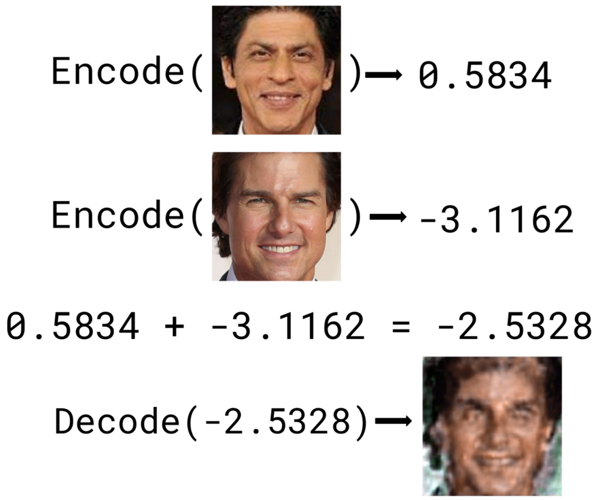

Figure 1: Outline of the proof.

Figure 2: SRK and TC combined.

Layer (type)	Output Shape	Param #
Conv2d-1	[-1, 6, 200, 200]	168
Conv2d-2	[-1, 6, 200, 200]	168
Conv2d-3	[-1, 12, 100, 100]	660
Conv2d-4	[-1, 12, 100, 100]	660
Conv2d-5	[-1, 24, 50, 50]	2,616
Conv2d-6	[-1, 24, 50, 50]	2,616
Linear-7	[-1, 120]	1,800,120
Linear-8	[-1, 120]	1,800,120
Linear-9	[-1, 10]	1,210
Linear-10	[-1, 10]	1,210
Linear-11	[-1, 1]	11
Encoder-12	[-1, 1]	0
Linear-13	[-1, 10]	20
Linear-14	[-1, 1]	11
Encoder-15	[-1, 1]	0
Linear-16	[-1, 10]	20
Linear-17	[-1, 120]	1,320
Linear-18	[-1, 15000]	1,815,000
Linear-19	[-1, 120]	1,320
Linear-20	[-1, 15000]	1,815,000
Conv2d-21	[-1, 12, 50, 50]	2,604
Conv2d-22	[-1, 12, 50, 50]	2,604
Conv2d-23	[-1, 6, 100, 100]	654
Conv2d-24	[-1, 6, 100, 100]	654
Conv2d-25	[-1, 3, 200, 200]	165
Decoder-26	[-1, 3, 200, 200]	0
CompressNet-27	[-1, 3, 200, 200]	0
Conv2d-28	[-1, 3, 200, 200]	165
Decoder-29	[-1, 3, 200, 200]	0
CompressNet-30	[-1, 3, 200, 200]	0
DataParallel-31	[-1, 3, 200, 200]	0

Total params: 7,249,096

Figure 3: Model summary.

References

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