Artificial Intelligence and the Generation of Digital Art: Evaluating the Ethical Consequences of Technology and Artistic Endeavors

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ABSTRACT

Every coming year comes the advancement of technology and artificial intelligence. ChatGPT and other digital A.I. software has also begun to grow in prominence with this technological development. However, A.I has not only begun to affect textual prompts and requests, but also artistic requests, such as creating an art piece or a musical composition. These digital programs use a knowledge database and create a work using known pieces of art. As such, ethical issues and concerns are important to acknowledge when dealing with this area of technological advancements. This study evaluates the common ethical issues that arise when discussing the effect of A.I. and art.

INTRODUCTION/OBJECTIVES

When evaluating the ethical nature of A.I. generated art, it is important to understand the basic structure of the mechanisms being utilized. A.I. art generators usually involve a program initially learning the structure of large datasets and examples of real-world art pieces. The program then begins to learn to recreate artwork that exhibits traits found in those of the chosen dataset. As such, highly accurate images can be reproduced from technological systems that may even be indistinguishable from real examples. With highly accurate art pieces being made, several ethical questions, such as the devaluation of human-made artwork and biases of datasets begin to rise. This study will evaluate several peer-reviewed experiments and compare results to conclude the ethical nature of A.I. generated artwork.

Figure 1. Real and A.I. art examples used in the studies

METHODS

The methods used throughout the experiment consist of

- Highlighting key results of the studies mentioned
- Comparing conflicting or concurring conclusions
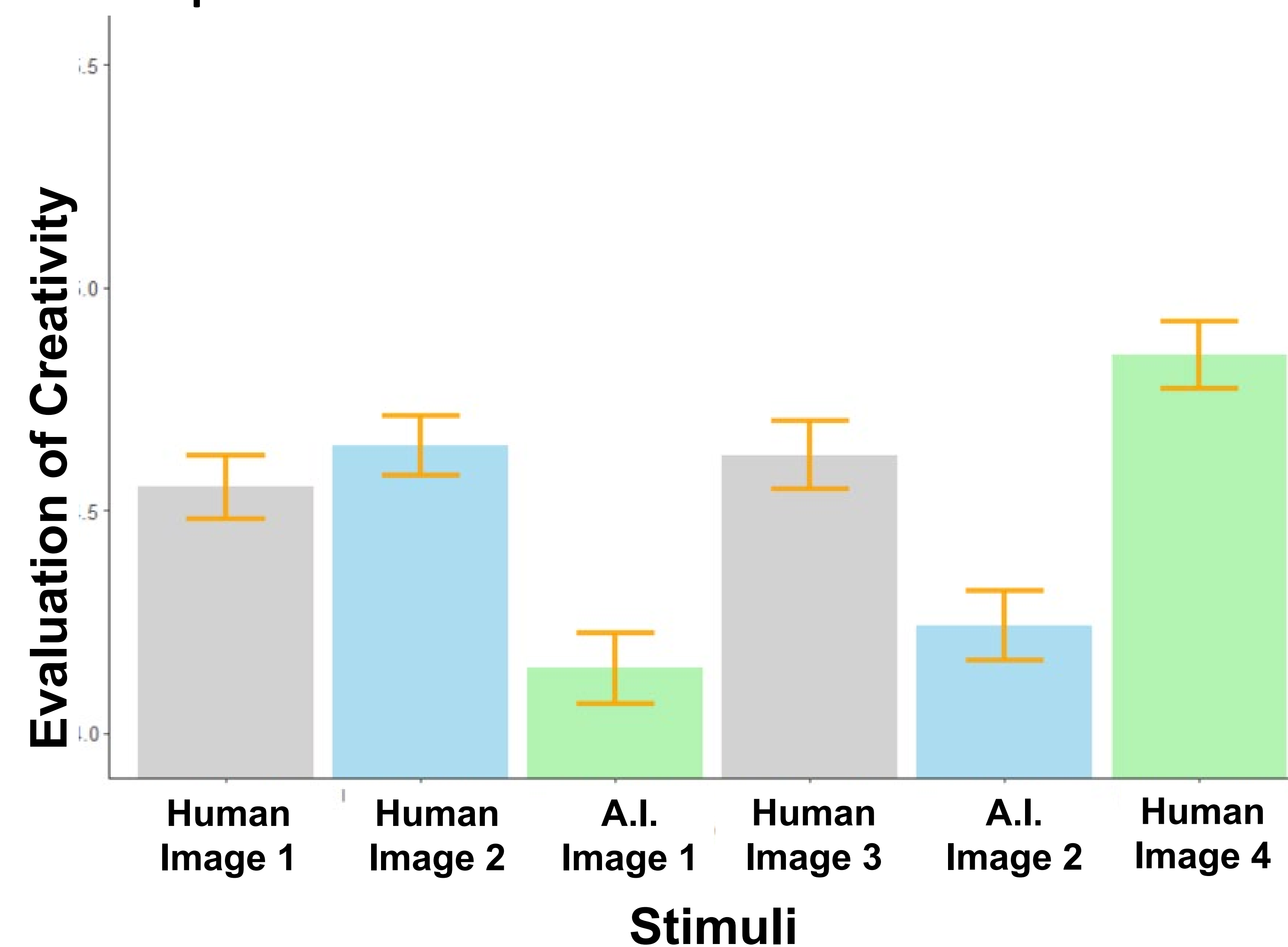- Suggesting areas of interest that may need further experimentation

Figure 2. Human Image Creativity Vs. A.I. Image Creativity

RESULTS

- Each study exhibited a more positive, creative response from human artwork than A.I. generated artwork, even when pieces were indistinguishable
- On average a little more than half the time people were able to distinguish between real and fake images
- People had a very hard time distinguishing voices and media that is real vs generated.
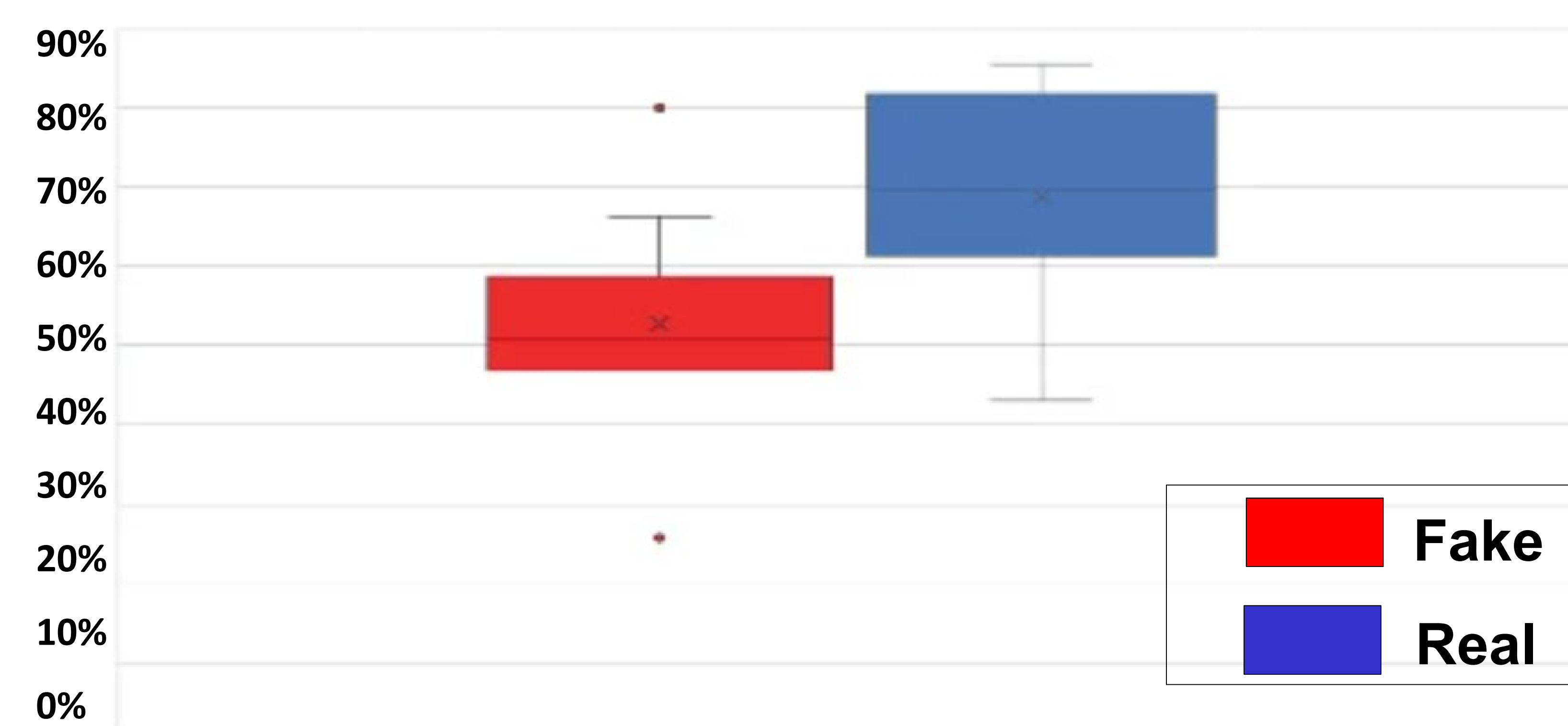- The group of people who had the hardest time was the elderly

Figure 3. Average User Classification Accuracy Based on Image Classification

CONCLUSIONS

- AI media uses an extensive database of real lie images and media to generate its art, deepfakes, voices, and music.
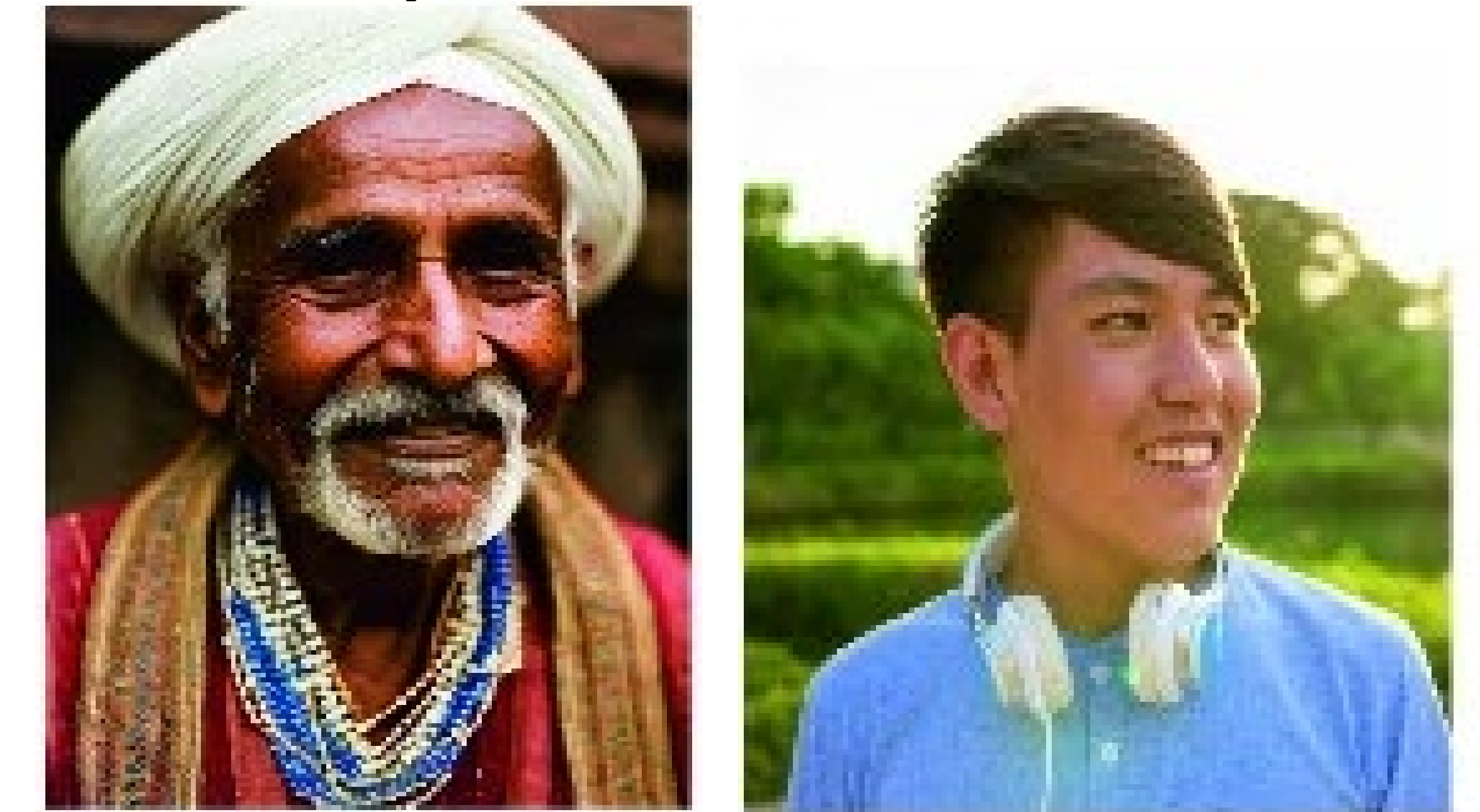- Each year with more advanced Generators coming out it has become harder to distinguish AI from reality.

Figure 4. Real Vs. A.I. generated images. Left is a generated image; right is a real image.

FUTURE WORK

Further avenues of work include rerunning these experiments and comparing to earlier results. We can use the information to see how much the generators have improved and how people's ability to distinguish fake from reality. Also, educating people on how the generators work using real life media to generate its work. While also teaching them that it should be used as a tool and not a way to create new work. Finally, educating non-tech savvy individuals on the dangers of these deceptive medias and how to recognize them.

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