

# True Vision

By: Sahi Balguri, Vijay Mahimtura, Akhil Rachakonda, and  
Stephen Tsai



# Different Types of Colorblindness

Deuteranopia is a variation of color blindness that limits one's ability to distinguish between colors.

It is typically described as “red-green colorblindness”. Deuteranopia is the most common type of colorblindness, affecting 8 percent of males globally.

Achromatopsia is a type of colorblindness that causes a complete absence of color.

People with achromatopsia only see shades of black, white, and grey.

Tritanopia is blue/yellow colors blindness and people with this variation have difficulty distinguishing between blue and yellow.

Protanopia is characterized as a blindness to red and the cones of the eye only absorb blue and green light.

# Our Program

We created a program that simulates what people with different types of colorblindness see in an image

We tested two different images and modified the rgb values to accommodate the visual for colorblind people

# Pictures vs. Colorblind filters

Tritanopia Filter



Original Pictures



Deuteranopia Filter



# Social Impact

- Our program allows us to assist colorblind people through helping us visualize what people with certain types of colorblindness see
- When having these filters applied to any picture, the assistant may have an understanding of exactly what the colorblind patient sees, and provide assistance based on this

Thank you, any  
questions?