

# CPSC 6040 Final Project

## Sunny becomes foggy and cloudy effect

Haotian Deng

[hdeng@clemson.edu](mailto:hdeng@clemson.edu)

Nov 26 2018

### Project Goals:

Turn a sunny scenery image to a foggy and cloudy day scenery image.

### Ideas:

*First*, I want to use technologies base on the class to finish the final project, and also make lots of innovations and improving.

*Second*, after seriously thinking about the difference between sunny days and cloudy days. I found that we can change sunny to foggy by adjusting "Interaction of Color" like brightness, saturation and so on. Our homework2 (Albers Color Studies) told about color.

*Third*, in order to make more realistic effect, I compose a foggy image over the image after adjusting. Our homework 3 (Green screening) told about composing

### Technology:

*I have made two programs which are "image\_adjust" and "image\_compose"*

- "image\_adjust" can adjust lots of things about image, such as brightness, saturation, highlight, shadow, whitebalance, contrast. The program not only can change sunny to cloudy, but also you can do every color adjustment by this program.
- "image\_compose" can compose a foggy image with a proper Alpha value.

### Steps to Do:

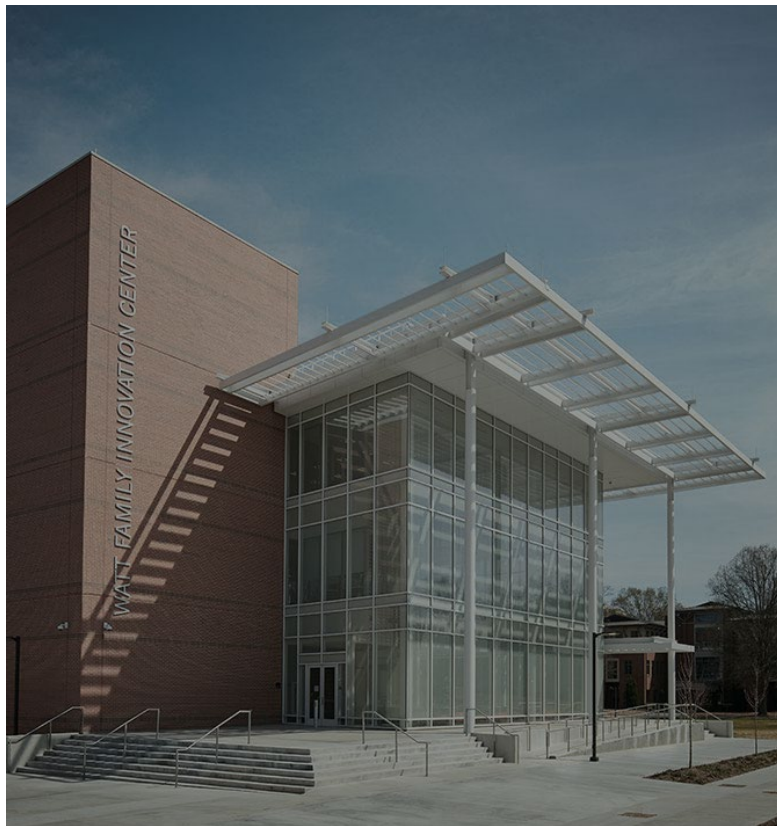
1. Read a sunny day image.
2. adjust brightness.
3. adjust saturation.
4. adjust highlight
5. adjust shadow
6. adjust whitebalance
7. adjust contrast
8. compose foreground and background with a proper alpha value

### Example:

Original image:



After a series of adjustments:



Foggy and cloudy image:



Composite image:

