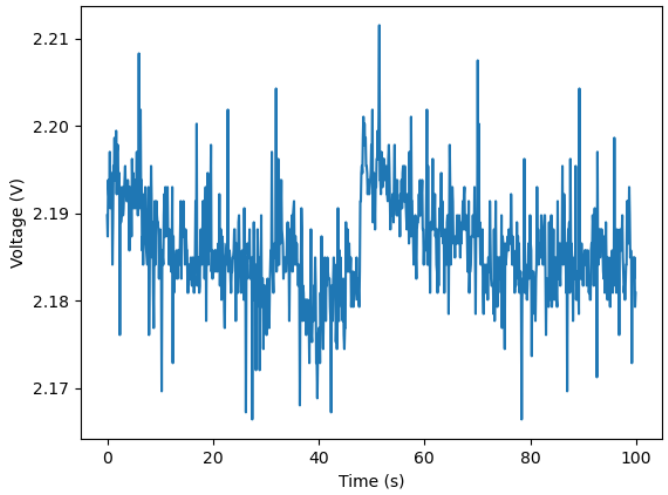
Justin Dyer: Photocell

Below is a link to a video of me setting up MU to read the voltage change of the photocell.

Video 1

Below is my python code used to plot my data from the photocell and a figure of my data plotted in ambient light.

```
import numpy as np

import matplotlib.pyplot as plt

data = np.loadtxt('hist_1.txt')

time = data[:,0]

time -= time[0]

ambient = data[:,1]

plt.plot(time, ambient)

plt.xlabel('Time (s)')

plt.ylabel('Voltage (V)')

plt.show()
```



Below is a link to a video of me explaining my circuit and how I acquired my data.

Video 2

Below is the Mean, Median, and Standard Deviation from my data from all light levels measured.

Low:

- Mean = 0.016048188572572574
- Median = 0.0145022
- Standard Deviation = 0.009957295571863773

Ambient:

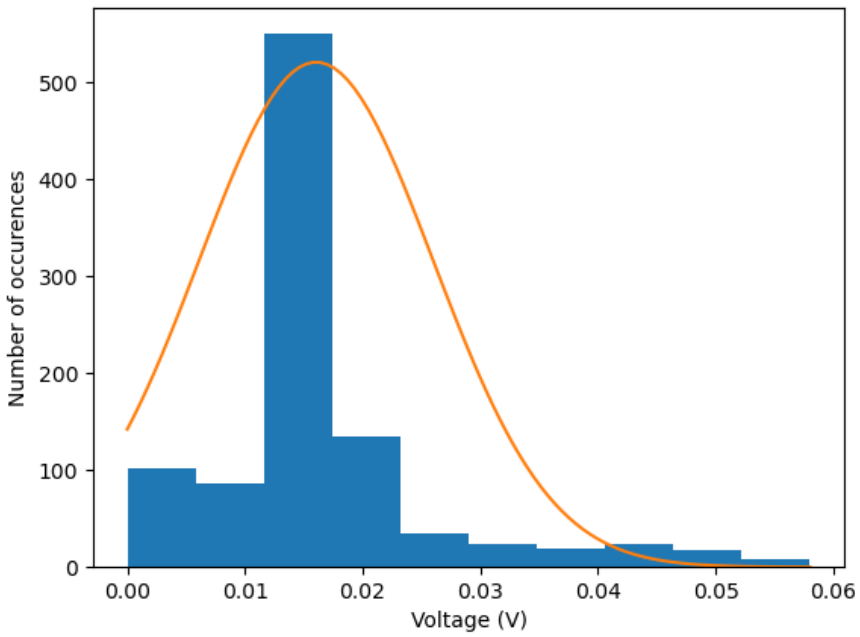
- Mean: Mean = 2.18613977977978
- Median: Median = 2.18577
- SD: Standard Deviation = 0.005700021455762066

High:

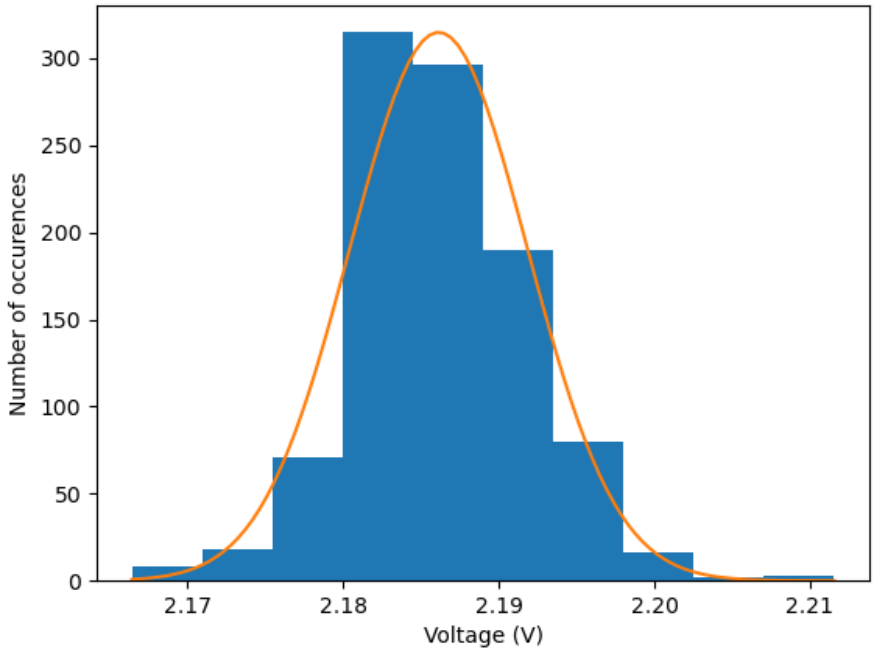
- Mean = 3.014595885885886
- Median = 3.01403
- Standard Deviation = 0.004517511959618497

Below are my histogram plots from low to high light levels.

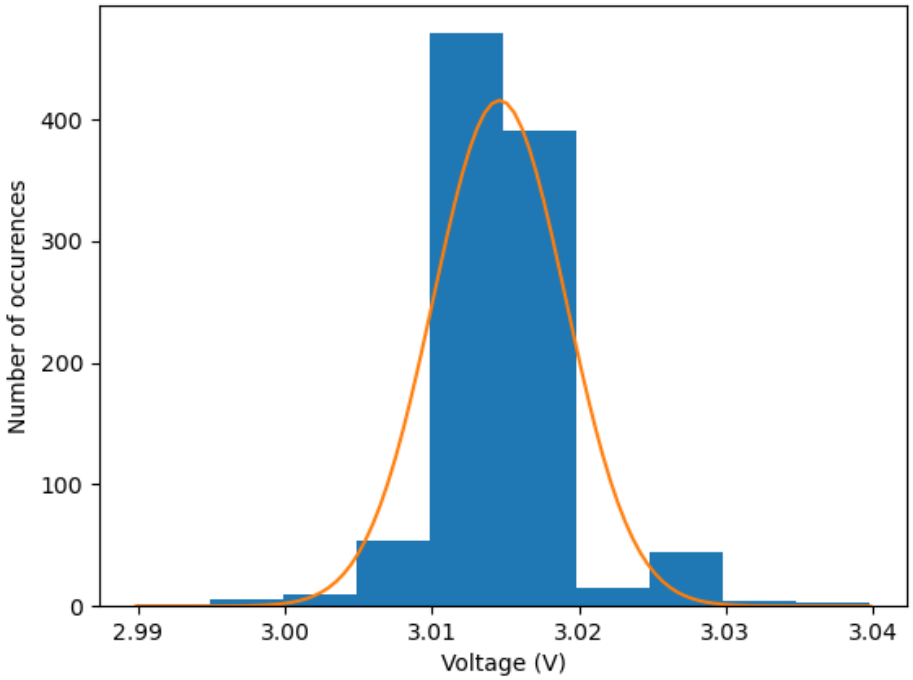
Low:



Ambient:



High:


Number of occurences
0
100
200
300
400
2.99
3.00
3.01
3.02
3.03
3.04
Voltage (V)