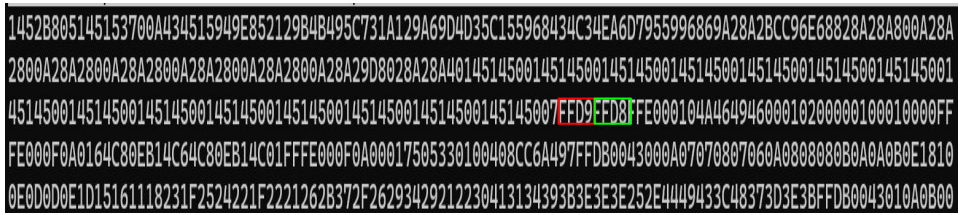
Low Latency Camera Feed Development - *Week 9*

Hex Data Frame Format

When it comes to analyzing the hex files from the video, there are certain indicators present:

- FFD8
  - Signifies the start of a frame
- FFD9
  - Signifies the end of a frame



This allows us to isolate specific frames via these indicators.

Individual Frame Histograms

Using a Python script, we were able to create histograms for each frame of our video.

- This allows us to determine which frames have the light on.

Calculating Latency

We have finally reached this step of calculating our latency of the camera. By comparing the frame data to the packet data, we can find what exact packet correlates to the frame. By using the timestamp of the packet, we can then be able to find the latency.

Calculating Latency Problems

When comparing the frame data to the packet data, there are some challenges.

- Both the frame data and the packet data have many values that all need to equal to each other.
    - Moreover, much of the packet data could be similar to the frame data with a few differences, making it extremely difficult to determine whether they match or not.

As a result of these difficulties, we ended up developing a Python script that can determine which packet matches with the frame.

This allowed us to get a latency of about 45 milliseconds.

Goals for Next Week

- Finish our group poster
- Revise our final presentation
- Try to reduce latency