**Purpose statement:**

This project will attempt to implement an eye blink detection algorithm to detect and label the number, frequency, and duration of blinks in videos and real-time footage with 100% accuracy. We will be working on this project from June 10-August 8.

**Background:** up to 100 words

What is the core problem?

How common is it? How many people does it affect?

Although multiple methods for detecting eye blinks in videos exist, most approaches require video variables to be manually set for varying scenarios.

**Methods:**

We will be using the Researcher’s Night Test Set, Talking Face, ZJU, Eyeblink8, and Silesian5 eye blink data sets. These sets are available for download or available on demand. We will use three main eye blink detection approaches. The first detects eye blinks with facial landmarks, the second detects eye blinks with frame differencing, and the third detects eye blinks through pupil detection. Afterwards we will test our algorithm on the HUST-LEBW dataset which is the most challenging eye blink data set.

**Limitations**:

Our algorithm will not account for winks, abnormal blinks, and eye twitching. Also, the ZJU data set does not have standardized labels. Moreover, although the Researcher’s Night, ZJU, and Silesian5 data sets are supposedly available on demand, it is uncertain how long it will take to receive access to these data sets.

**Bibliography:** up to 20 references