

## CS 445 Final Project

### Sleepy Face Detection

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#### Motivation

Sleep is important to maintain our health and well-being; however, we often need to fight the urge to fall asleep. Spending long hours in front of our phones or computer screens to complete tasks, study, watching shows, or even socialize is common for a lot of people. Sleepy face detection could be a friendly companion to wake you up before dropping your phone on your face or accidentally falling asleep before a deadline. It could also remind you that it is time to brush your teeth and go to bed when you just can't keep your eyes open.

#### Milestones

Week 11	<ul style="list-style-type: none"><li>• Set up environment</li><li>• Collect sleepy footage</li></ul>
Week 12	<ul style="list-style-type: none"><li>• Find face</li><li>• Find eyeballs and eye areas</li></ul>
Week 13	<ul style="list-style-type: none"><li>• Rate sleepiness vs eyes</li></ul>
Week 14	<ul style="list-style-type: none"><li>• Controls and settings</li><li>• Preliminary tests</li></ul>
Week 15	<ul style="list-style-type: none"><li>• Correct findings from preliminary tests</li><li>• Try on other people</li></ul>
Week 16	<ul style="list-style-type: none"><li>• Try on other people</li><li>• Report and submission</li></ul>

Milestones should be completed by the end of the week

#### Evaluation

- Shows a signal when sleepiness level is above a set threshold
- Try on someone other than me and compare calibration curve

#### Resources

- Computer (obtained)
- Computer's camera or web cam (obtained)
- Download sleepy clips from youtube or record new data

#### Group

- Potentially make the detection more universal if a partner is found
- Include more cues such as head nodding if a partner is found