

Sleep Detection

Monday, October 22, 2018 3:47 PM

<http://vision.fe.uni-lj.si/cvww2016/proceedings/papers/05.pdf>

To build our blink detector, we'll be computing a metric called the *eye aspect ratio* (EAR), introduced by Soukupová and Čech in their 2016 paper, [Real-Time Eye Blink Detection Using Facial Landmarks](#).

The eye aspect ratio is instead a *much more elegant solution* that involves a *very simple calculation* based on the ratio of distances between facial landmarks of the eyes.

Two steps:-

(1) perform facial landmark detection and (2) detect blinks in video streams.

$$\text{EAR} = \frac{\|p_2 - p_6\| + \|p_3 - p_5\|}{2\|p_1 - p_4\|}$$

Figure 4: The eye aspect ratio equation.

