



Re-light

Recharge your life!

Why we need Re-light?

There are many people with a hectic life-style, suffering from heavy pressure of work, family and even the external environment.

Re-light aims to help alleviate pressure and as a result makes people happy mentally and physically.

What is Re-light?

Facial expression recognition technology is used. Re-light reacts to people's facial expressions like 'happy', 'sad' or 'neutral' with various colors of light refraction.

How Re-light works?

Convolutional neural network is used to create the model architecture for improving the accuracy of expression recognition for Re-light and OpenCV is used for face detection in the image. The cropped face is converted to grayscale for input layer. The convolutional layer generates feature maps and the dense layer helps better pick up signals. The results will be shown on the output layers.

Models with various combinations were trained to achieve high accuracy so that the architecture included nine layers in convolution with one max-pooling after every three convolution layers.

We are using one raspberry pi with two expansion boards for 18 motors to control the glass to attained the corresponding light refraction effects.

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