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Heart rate Estimation

A C++ code that detects the heart-rate of an individual from a input video. It is inspired by reviewing recent work on [Eulerian Video Magnification](http://people.csail.mit.edu/mrub/vidmag/). This application uses [OpenCV](http://opencv.org/) to find the location of the user's face, then isolate the forehead region. Data is collected from this location over time to estimate the user's heart rate. This is done by measuring average optical intensity in the forehead location, in the subimage's RGB channels. With good lighting and minimal noise due to motion, a stable heartbeat should be isolated in about 30 seconds.

The overall dataflow/execution order for the real-time signal processing looks like:



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| Video | Heart Rate Range |
| Training Video | 55-65 BPM |
| Test Video | 85 – 95 BPM |
| Demo Video 1 | 65 – 75 BPM |
| Demo Video 2 | 90 – 110 BPM |