



TECHNOLOGY

Heart Rate Measurement for Fitness Exercises using Facial Video

OVERVIEW

Recent studies show that subtle changes in a human's face color due to their heartbeat can be captured by digital cameras. Most existing work focuses on still/rest cases or those with relatively small motions.

Researchers at the University of Maryland have created a heart-rate monitoring method using facial video. The method consists of a highly precise motion compensation scheme with optical flow and the use of motion information to adaptively remove ambiguous frequency components to improve the heart rate estimates. This system extracts from a face video a 1-D sinusoid-like face color signal that has the same frequency as the heartbeat.

APPLICATIONS

- Sports medicine
- Other medical applications where touch-based sensors may not be suitable (e.g. patients with autism)

ADVANTAGES

- User-friendly approach (no need for electrodes, finger clips, etc.)

CONTACT INFO

UM Ventures
0134 Lee Building
7809 Regents Drive
College Park, MD 20742
Email: umdtechtransfer@umd.edu
Phone: (301) 405-3947 | Fax: (301) 314-9502

Additional Information

INSTITUTION

University of Maryland, College Park

PATENT STATUS

Pending

EXTERNAL RESOURCES

IS-2017-131