Sensor Technology Perceiving Health and Wellbeing Enabling Elderly to Age in Place by Stimulating a Healthy Lifestyle (STAY)

Contact:

VicarVision
Singel 160
1015 AH Amsterdam
The Netherlands
http://www.vicarvision.nl

Tim den Uyl
CEO
tdenuyl@smr.nl

Hans Tangelder, PhD,
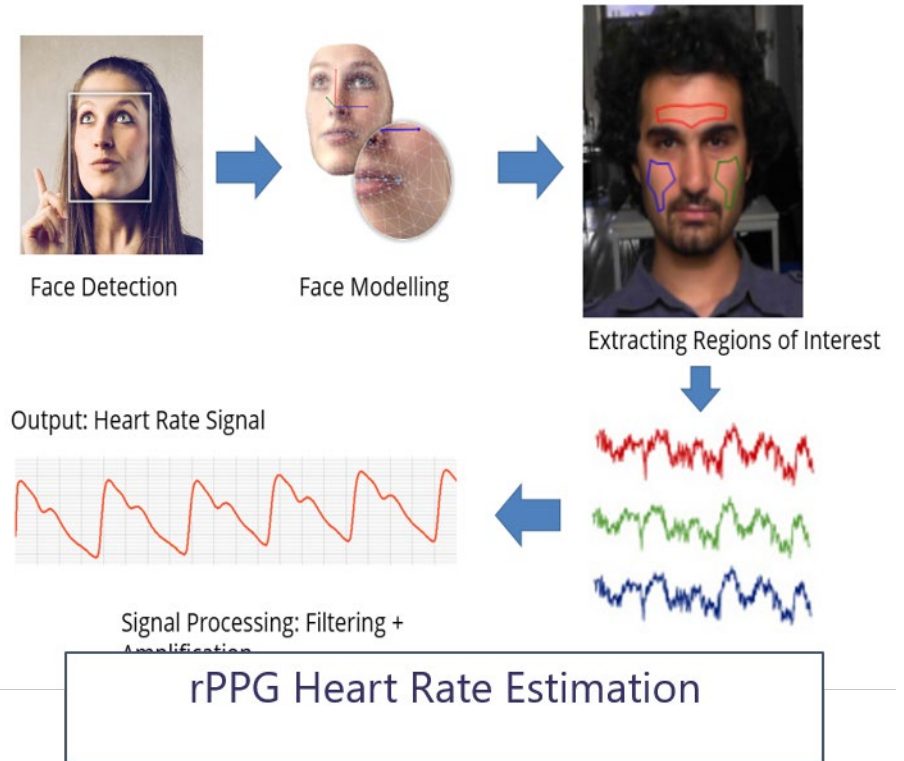Senior Researcher
htangelder@vicarvision.nl

VicarVision is a SME Founded in 2001, about 15 employees

VicarVision provides state-of-the-art sensor technology perceiving humans. Flagship products are

- **Emotion Recognition with FaceReader**
- **rPPG Heart Rate Estimation from Face Video Input**

Face Detection → Face Modelling → Extracting Regions of Interest

Output: Heart Rate Signal

Signal Processing: Filtering + Amplification

rPPG Heart Rate Estimation

Emotion Recognition

Sensor Technology Perceiving Health and Wellbeing Enabling Elderly to Age in Place by Stimulating a Healthy Lifestyle (STAY)

We are able to

- Contribute FaceReader as a sensor to measure the emotions of the elderly
- Contribute RPPG and HRV measurements from face video. Improve our implementations to handle challenging circumstances; for example when part of the face is hidden
- Implement emotion recognition from voice
- Implement mood estimation, using deep learning based on daily measurements from all available data: FaceReader measurements, emotion from voice, RPPG, HRV. Data from sensors provided by other partners, e.g. step counting data, indoor location data, mood assessment by a care giver, self-assessment of mood, sleep quality data
- Implement gesture recognition for user interaction
- Implement body pose estimation and gait analysis from video input using deep learning

We are looking for a consortium or partners supporting this project idea by

- Experience on improving wellbeing for elderly
- Experience on applying digital technology for elderly
- Human computer interaction design for elderly
- Taking part in pilots as an end user
- Complementary sensor technology
- Applying sensors to measure sleep quality
- Extending emotion recognition to mood recognition
- HRV data analysis
- Analysis of raw sensor data using deep learning

With the mission to support elderly to **stay** longer at home!