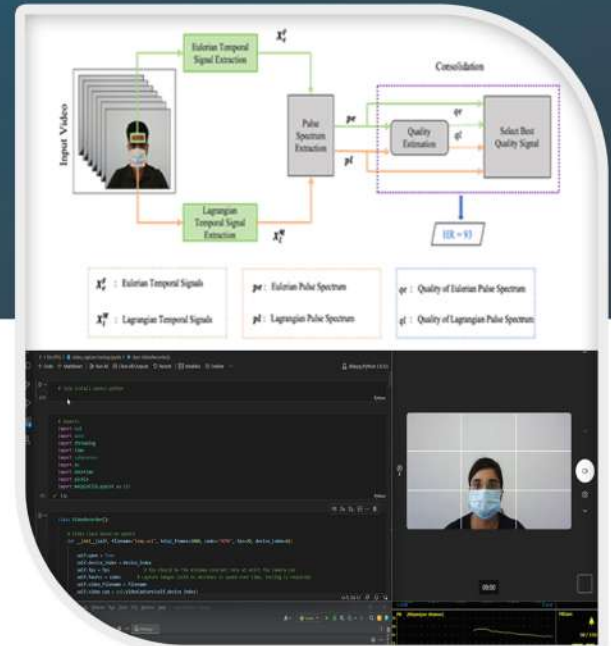


TECHNOLOGY DEVELOPMENT PROGRAM HEALTHTECH

HREADAI

Designed remote PPG-based Heart Estimation System for face mask



Issue Being Addressed

- ▶ HR estimation from face videos of masked subjects
- ▶ Utilize the most relevant HR information to improve efficacy

Key Feature of The Technology/Product /App Which Is Being Developed

- ▶ Extract relevant HR information from the mask region
- ▶ Improves efficacy by simultaneously using the relevant rPPG information obtained from the Eulerian and Lagrangian approaches
- ▶ Introducing a new rPPG dataset comprising videos of masked subjects' faces and pulse information

Impact & Benefit

- ▶ This innovative approach offers a convenient and non-intrusive means of tracking one's heart rate, even while wearing a mask, during various activities or periods of interest
- ▶ Can effectively monitor their cardiovascular health, leading to improved overall well-being.
- ▶ Detects signs of stress, exhaustion, or other health-related issues, allowing for timely intervention and preventive measures

Team

- ▶ PI: Dr. Puneet Gupta, Assistant Professor, CSE Dept.
- ▶ Trishna Saikia, Ph.D. Student, CSE Dept.
- ▶ Anup Kumar Gupta, Ph.D. Student, CSE Dept.
- ▶ Sneha Shukla, Ph.D. Students, CSE Dept.
- ▶ Ashutosh Dhamaniya, MS Student, CSE Dept IIT Indore

Targeted Customers & End Users

- ▶ Healthcare professionals
- ▶ General public

Commercialization Status

- ▶ Working software that will analyse the non-contact face-masked videos and provide HR estimation
- ▶ Patent filed for "System, apparatus, and method for heart rate determination of a user wearing a face mask"
- ▶ Paper got published in IEEE Transactions on Instrumentation

Short Term Program Scheme