3-2019

Welcome message from the General Chairs

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DOI: https://doi.org/10.1109/PERCOMW.2019.8730862

WristSense'19 - Workshop on Sensing Systems and Applications using Wrist Worn Smart Devices - Welcome and Committees

Welcome Message from the General Chairs

Recently there has been a growing interest in consumerization of wrist-worn devices especially smart watches and wristbands. Many large corporations such as Apple and Samsung already have a commodity smart watch and many other companies such as FitBit, Nike, Jawbone have wristbands geared towards fitness tracking. Smart-watches and bands are equipped with many sensors, (for example, latest Samsung Gear devices have heart rate, accelerometer, gyroscope, infrared sensors etc.) a processor, communication radios (for example, Bluetooth or Wi-Fi) and a small size display. It is, therefore, possible to capture information about the device user, perform computation and communication using these devices to infer various activities/contexts of the user. Further, these wrist-worn devices also represent a perfect platform to conduct research on human activity, behavior, and related areas, given the capabilities described above. Moreover, the sensor data from the wrist-worn devices can be augmented with data from alternate personal sensing modalities (for example, smartphones, smartglasses, etc.) or infrastructure sensing devices (for example, security cameras, BLE beacons, etc.) to obtain richer contextual information about the individual as well as the environment around the individual.

In this workshop, we will focus on two key areas:

Wellness and Digital Health Industrial and Factory Applications

We are looking for submissions that includes exploration of wrist/hand-based sensing, as part of broader sensor-based applications, that may include additional wearable devices or IoT platforms. We invite paper submissions in the following areas:

Design, implementation, and evaluation of systems using wrist-based smart devices. Design and implementation of wrist-worn device based pervasive applications that may include data from other wearable and IoT devices. Description of experiences in data collection and deployments using wrist-worn devices and/or alternate sensing modalities. Feedback, notifications, and alerts using wrist-worn smart devices. User behavior analysis on data collected from wrist device and/or additional personal sensing devices. User activity and context recognition using wrist-worn smart devices. Achieving energy efficiency and extending battery life of wearable devices. Efficient communication between wearable devices and smartphones or other wearable and infrastructure sensing devices. Privacy aspects related to data collection from wearable wrist-worn devices. Establishing wrist-worn based gold standard measures for health-related constructs.

2nd Panel Discussion Regarding How to Establish Objective Gold Standard Measurements for Health Constructs:

Due to participants' increased willingness to wear wrist-worn sensors, the wrist remains a major contender for tackling problems related to health and inactivity physical and sedentary activity are the only constructs with acceptable gold standard passive sensing measures (e.g. Actigraph measuring MVPA and Actipal measuring types of sedentary activity). We aim to continue the discussion to change that. WristSense 2018 comprised of panelists Dr. Claudio Bettini (University of Milan, Italy), Dr. Adam Haim (NIMH - USA), and Dr. Andreas Lymberis (European Commission - Belgium). Due to the interest in the topic, we plan to continue the panel in 2019. We are putting together a unique panel discussion comprising of key individuals across academia, industry and government agencies surrounding "Defining Objective Gold Standard Measures for Health Outcomes". Our goal is to engage the research community in this important discussion, and perhaps identify a vision moving forward for technologist, behaviorist, engineers, and mHealth specialist.

WristSense 2019 Organisation

General co-chairs

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Archan Misra (Singapore Management University, Singapore)
Abhishek Mukherji (Cisco Systems Inc. & Worcester Polytechnic Institute, USA)

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