WEARABLE SENSING ANALYSIS – IDENTIFYING ALCOHOL DRINKING FROM DAILY PHYSIOLOGICAL DATA

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ABSTRACT

In practical psychology research, questionnaires and interviews with examinees are commonly used. Besides, it usually lasts for several days which could be costing and time consuming. Previous work in our lab provided a smartphone-client and server based distributed system which does not need participants to go to the clinic doing any paperwork nor any invasive blood or medical-electronic based tests, so that saving time and money for better researching purposes. The system called mAAS and started to collect precious data from our recruits. Improvements that I made to the system are presented in this thesis. Also, a new data analysis pipeline is built and evaluated. Modern wearable technology is integrated without extra burdensome equipment in our system. We got large numbers of detailed physiological information about participants in their real life. Data preprocessing is applied to get cleaned data. Features about ECG and RIP are extracted afterwards. As a result, involving machine learning methods, we can deal with classification on these features and give out good performance on understanding and analyzing tasks. In this thesis work, alcohol drinking activities are identified from daily physiological data through the pipeline as presented.