

## Advertisement

# Master Thesis

## Measuring affective responses in VR using wearables

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Berlin, March 27, 2018

The majority of systems and services that are provided by computer science, electrical engineering and information technology finally are oriented on the needs of their human users. To successfully build such systems and services, it is essential to investigate and understand users and their behavior when interacting with technology. On the one hand, this understanding allows to derive design principles for human-machine-interfaces and to define requirements concerning the system and its underlying technologies. On the other hand, new technologies offer new possibilities regarding the design of such interfaces and new kinds of interaction.

The Quality and Usability Lab is part of TU Berlin's Faculty IV and deals with the design and evaluation of human-machine interaction. Here, the main subjects of our research are human perception, aspects of technical system that are related to the interaction as well as interaction design.

In recent years, wearables have become more and more popular. Although a lot of effort was put into the evaluation of appropriateness and accuracy of these systems, the evaluation or prediction of usability or user experience has not been examined deeply.

The aim of this thesis is to explore and evaluate affective (emotional) reactions using subjective and physiological methods. A virtual environment will be used to introduce emotional reactions.

- Developing and testing a model for affect (emotion) estimation of the user based on physiological signals recorded with Smartwatches and ECG

### Requirements

- Study subject: computer science / engineering, psychology / human computer interaction, or similar
- Programming skills (VR and analytic based)
- Basic knowledge of machine learning / statistics and physiological signals
- Interest in human computer interaction, usability / affect assessment, and signal processing
- Knowledge of experimental methods and user testing are desirable

### Company Partner: mHealth Pioneers

mHealth Pioneers powers the individualization of health care. Our software enables health services to derive sensible health data from smartphones, smartwatches, fitness trackers and the like through a single API. By enabling health services to understand and use automatically generated data, we believe that we can fundamentally improve all aspects of health care - from prevention and screening to intervention and therapy. Since founding our company 2016 in Berlin, we have added corporates, fellow startups, care organizations and research institutions to our customers and grown a dedicated team of software and AI engineers.

### Contact:

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