Wearable Integration for Emotional Analysis

In the course of studying human emotions and how people view, respond and react to other people’s emotions in a team setting, a crucial step is to analyze determine if and how a person’s physiological states impact their (self-reported and others-perceived) emotional states. Physiological variables of interest are:

1. Heart rate
2. Heart rate variability
3. Perspiration (as measured by galvanic skin response)
4. EEG signals: spectral characteristics

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…and others. There are numerous currently available, off the shelf devices off the shelf that help gather this information, from various versions of fitbit, to the more exotic Empatica E4, to the Emotiv and Cognionics wireless EEG caps. The challenge we face in building a true ‘physiological signal fusion’ platform is to aggregate, synchronize, and tabulate data from multiple sensors, coming in multiple formats, at6 different noise levels.

We are looking for engineers who can help develop a plug and play end-to-end system to allow users to seamlessly interface their wearable devices to centralized data aggregation and fusion units which will allow us to make multivariate inferences about emotional states from collections of physiological signals. The skill set we are looking for is the following:

* Experience in C/C++
* Interest in programming digital video apps in Android/iOS
* Familiarity in working with device drivers preferred
* GIT and Documentation is part of getting it done
* Release early, release often mentality, AKA Progressive enhancement attitude
* Are a developer at heart, respect SOLID principles and know your design patterns

***About the Mind Brain Behavior Hive***

We are a tri-faculty Institute at the University of Toronto <http://mbbh.resonatoragency.com/> whose mission is to re-design and re-engineer the learning processes of higher education by building on state of the art brain science, the latest advances in wearable sensing technology and adaptive learning algorithms (‘machine learning’, ‘deep learning’) to create platforms, products and experiences.

**To apply**: send CV, cover letter, and pointers to your code samples, portfolio or projects you have shipped to apprentice@mindbrainhive.org

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