2015 Conference on Governance of Emerging Technologies

Penny for *All* Your Thoughts?

Big Data and the Future of Thought Privacy

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Innovating law, policy and ethics for science & technology

two technologies on convergence course: big data & brain science

big data – predicting our future actions based on our past

brain science – to try to understand how we think

both determine our unexpressed thoughts, intentions

***not* talking about the government reading our minds**

***nor* about singularity or transhumanism**

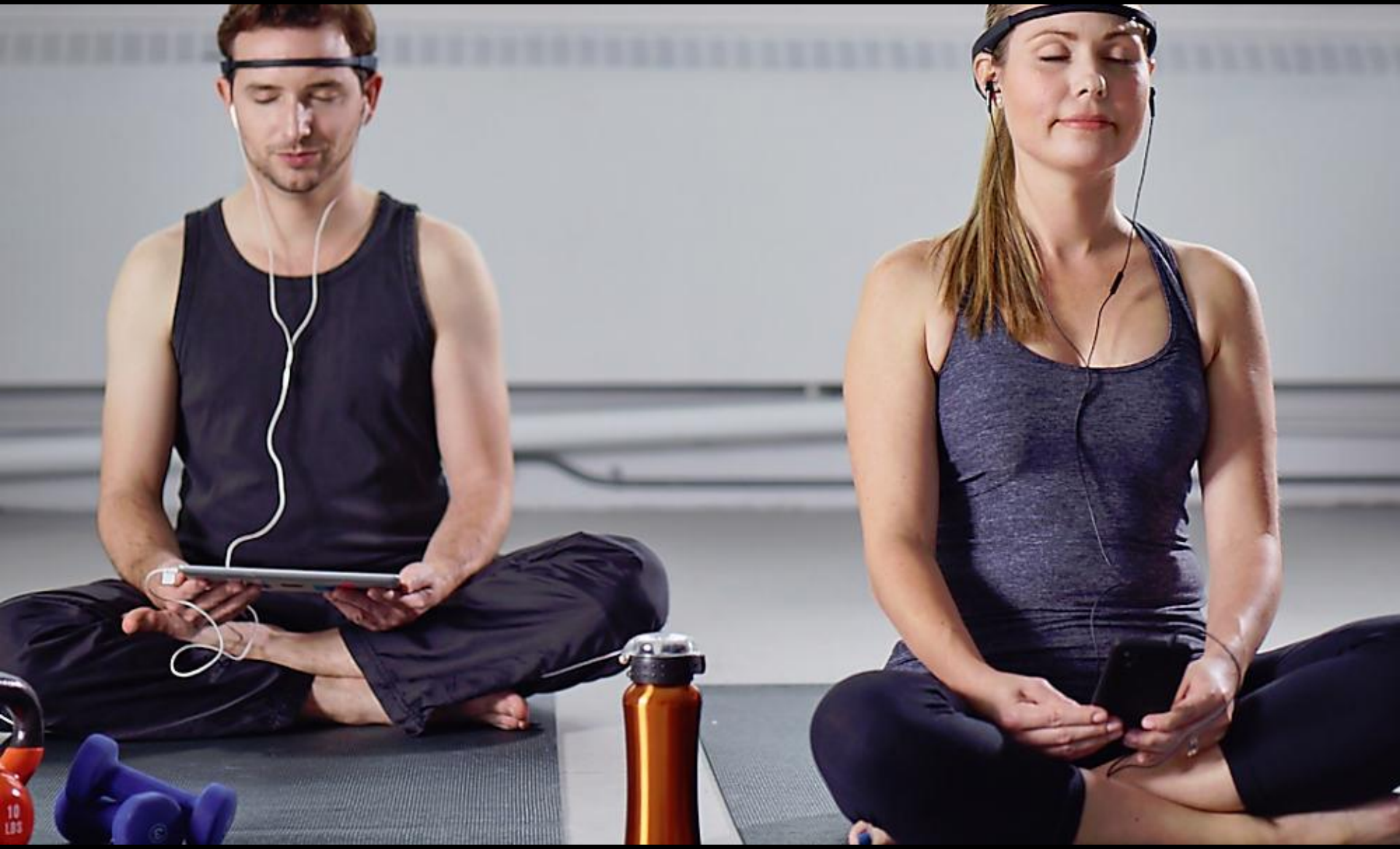
rather, about *how* they'll converge and the consequences

value of thought data – scientific, technological, and commercial

iWinks

EEG consumer products


muse

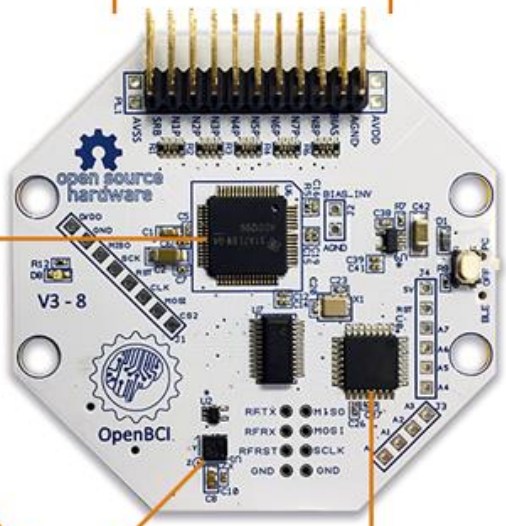


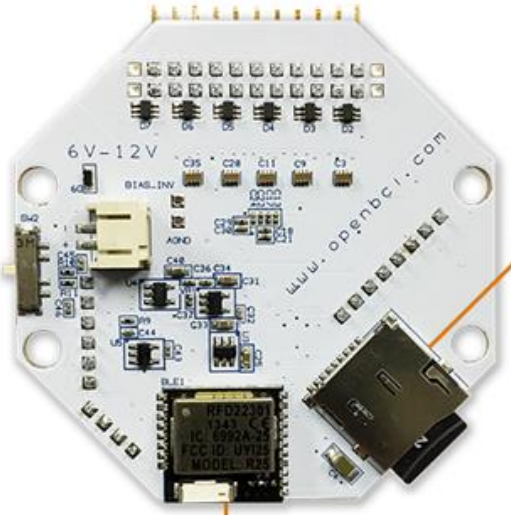
OpenBCI
8bit Board

8 BIOPOTENTIAL INPUT CHANNELS
- brain (EEG), muscle (EMG), & heart (ECG)
- ground w/ inverted common mode noise

HIGH POWERED ANALOG FRONT-END

Texas Instruments ADS1299 -
high gain, low noise ADC -
24 bit channel resolution -
up to 16 kHz sampling rate -





LOCAL SD STORAGE
- maximum data rates
- improved portability

ACCELEROMETER

ST LIS3DH -
3-axes accelerometer -
16 bit data output -

PROGRAMMABLE
- Atmel Atmega328P
- w/ Arduino Uno bootloader
- 8 GPIO pins

WIRELESS COMMUNICATION
- RFDigital RFD22301
- Bluetooth Low Energy (BLE)
- high data rate radio via USB
- Arduino compatible

BROWN

Exploring Neural Data

Try your hand at understanding the brain by learning to analyze neural data yourself! Working with real neural data sets from neuroscience research labs, you'll learn data analysis techniques so you can discover for yourself how the brain works.

About the Course

Exploring Neural Data is an opportunity to learn about neuroscience research and explore questions related to how brains work. It is an introductory level course designed to help you understand the real-life challenges faced by neuroscientists as they work with the large amount of data they collect from the brain. Leading neuroscientists will give tours of their labs, describe their research, and explain their data analytic techniques. You will have the chance to explore actual data collected in these researchers' labs.

Sessions

Future Sessions

Add to Watchlist

Course at a Glance

5-8 hours/week

brain activity data

+

contextual data

=

***opulent* data sets**

mosaic theory fulfilled beyond the justices' imagination

who will get the data, and what will they do with it?

remarkably useful,
personalized
services (and ads)

legal applications: evidence, contract, family, tort

thoughtcrime

***noun*; an occurrence or instance of controversial or socially unacceptable thoughts (from George Orwell's novel 1984; source: Wikipedia).**