CALIFORNIA SCIENCE & ENGINEERING FAIR
2019 PROJECT SUMMARY

Name(s)

Gabriel Fergesen

Project Number

J1406

Project Title

Using Artificial Intelligence and Electroencephalography against Autism and Attention Deficit Disorder

Abstract

Objectives

Can an Artificial Intelligence with electroencephalography predict when the user is unfocused.
What is the best electroencephalography headset to utilize for the experiment?
Which software to use, and what to avoid.
How to access the programs I created.
How to configure Wekinator and Muse Monitor.
How to work with OSC data.
How to train an artificial intelligence in Wekinator and run an experiment.
How to approach getting a mentor, and attempt to secure product donations

Methods

The procedure I followed was a system of three phases.

The first phase is to develop and procure the tools, computer programs, artificial Intelligence and expert mentors in the areas of computer science, computer programming and data analysis.

I was not able to complete this stage because I could not reconcile the headsets to the Artificial Intelligence (A.I.). Consequently, I could not run the trial portion of this experiment. To complete this I believe I will need more experience or experts.

The second phase will be running the experiment when I get the individual components online.

The third phase will be assembling a product which will be, a standalone headset, a stimulus to wake the user and taking the product to Kickstarter, a platform for crowdfunding an idea and bringing it to marketplace.

Results

Since I was unable to run my experiment my results were inconclusive, but this is my best educated guess on how to manage the data without being able to conduct the experiment. Repeat experiment 3 or more times. Put the data into a chart that shows the human guess and the bot's guess which will prove whether it's possible to prevent the mental state of spacing out via AI augmented shock therapy from intelligent analysis of EEG.

Summary Statement

Gather the tools, programs, artificial intelligence and expert mentors in computer science, programming and analysis, Run experiments & complete a standalone headset with the ability to wake the user and take the product to the marketplace.

Help Received

Natalie Bloome, Expert, Github Dr. Rebecca Fiebrink, Computer Expert, overcome errors Patricia Tsori-a-sue, Inventor of Wekinator, create a map and timeline Brian Cooper, UC Long Beach Manager, hours debugging code Dr. Luciano Nocera, PATA Science Institute, USC - Numerous tasks