

Meeting Minutes for 9/29/2020

Regarding the rat wig cap, there may need to be smaller nodes with a strap on design due to the smaller head. Dr. Kumar said that he has found out that the size of the electrodes actually doesn't matter when it comes to extracranial recordings due to the readings coming from millions of cells anyways.

Regarding the Hydrogel electronics, Kate had found out that they have mostly been used for wound dressing and drug delivery so far. However, they are very reusable and sit directly on the skin, which is great for better clarity of recording. The main issue is that the machinery to build them is complicated, and to attach them is a very wet and uncomfortable experience, which is not ideal for high school students, but may work perfectly fine for rats.

Things to look into about the hydrogels

- Does the university have the capability to make them?
 - o Dr. Kumar said that he would talk with some colleagues from Material Sciences tomorrow (9/30/2020) and see if he could set up a meeting with them.

MLA update

- Mostly statistics using gathered data.
- Andrew and the other Grad Student have experience with machine learning and they can/will be great resources for that going forward.
- Dr. Kumar would like to set up a separate or more specific meeting with the CS majors to discuss they desirables with the Highschool teacher, so Max and Kiran can expect an email from him in the coming days regarding that.

10/20 system

- This project is aimed at finding the minimum number of electrodes needed to get a quality signal, ideally we will not actually need 21 electrodes.
- The emotive device uses 14+/-1 electrodes.
- We will need to look into and discover how many we need in the future.

Code

- Max and Kiran should look into the code from previous years and see what can/needs to be improved going forward.
- Last year the issue wasn't as much with the code as it was with the circuit, something went wrong and they didn't have time to fix it.