Our team had lots of trouble connecting our Arduino to our custom GUI React-Native App (an app that we poured hours into). During our NASA Hunch presentation, we opted to use Arduino IOT cloud in order to display our data, however, it took away an integral part of our app, controlling the environment with a custom GUI. We still aren't able to do it and that's why I'm finding ways how to do so. I found a solution to this problem. One way we could connect our Arduino to our React-Native App is through BLE (Bluetooth Low Energy). Arduinos come with wire, wifi, and Bluetooth capabilities. What Bluetooth low energy does is allow the Arduino to connect to the React native app through Bluetooth and send data. First, we have to install the Arduino extension into VSCode that way we can edit the code that we send to the Arduino. Also, Arduino uses .ts files which the Arduino extension could help us edit. We will have to completely reposition our GUI to normal phone dimensions as we have to emulate Android or iOS. We can also completely scrap our react app and fully switch over to Arduino IOT cloud. One con about Arduino IOT cloud is that they charge money for more than 5 things (what they call variables) and we obviously need more than 5 variables. However, they also have a school plan which has reduced costs for things. One huge advantage to the IOT cloud is that we can easily make GUIs that can display data instead of coding the GUI constantly when we make a new change. If we want to continue with our react-native app and BLE, I found a YouTube video on how to do it in the link below.
https://www.youtube.com/watch?v=UuHLPsjp6fM&list=PLC_Hfj08XtG6f-IIZURzyuFIcuLCJobaI&index=4