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CS35L 06/03/2020
Section 2

Muscle signals can pilot a robot

The CSAIL team devised a new way to introduce new users towards robots through the use of muscle sensors and gestures. By using electromyography sensors and inertial measurement units, the team was able to pilot a drone through a series of hoops, using the sensors as data input for their online clustering algorithm. Using a streaming data model, the team was able to predict models that fit the user's data points, calibrating the sensors in real time. This, coupled with a gesture library, allowed for significantly accurate and precise results, although lacking in full control of motion. The end result is that data interpretation can now use muscle sensors to calculate the force needed in an action, as well as make handling robots more intuitive and simplistic for the average user. This experiment proves to be a crucial stepping point in remote handling, serving as a step towards integration of robotic handling in hazardous jobs and the like.

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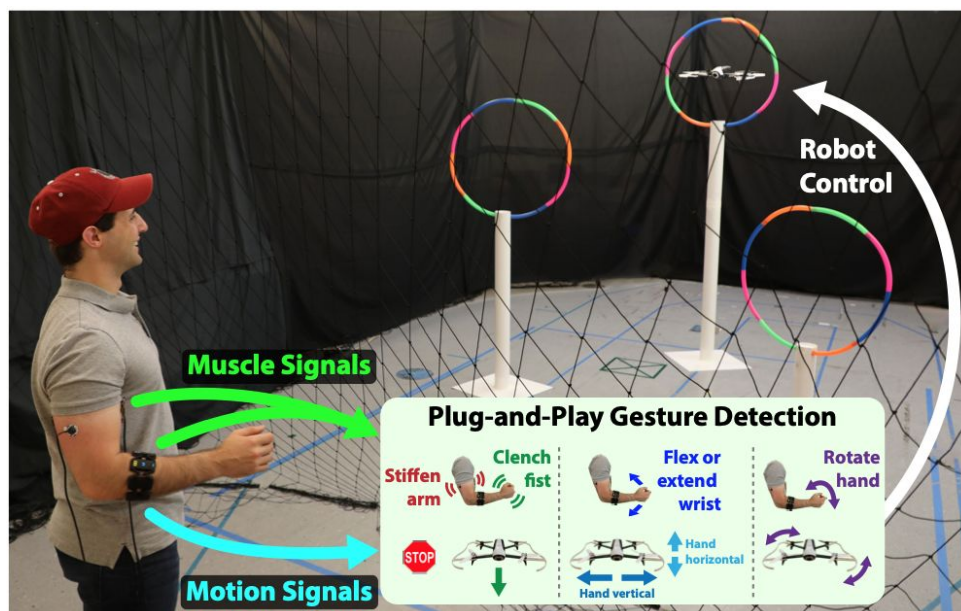
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