

**FIX IT IF YOU CAN,
REPLACE IT IF YOU CAN'T**



RESEARCH

Hand Gesture Classification with Wrist-Mounted EMG and Pressure Sensory Feedback

Supervisor - Mr. S. Suthakar



What is my goal?

Creating a low cost robotic hand using Electromyography (EMG)
with pressure sensing feedback



What others done ?

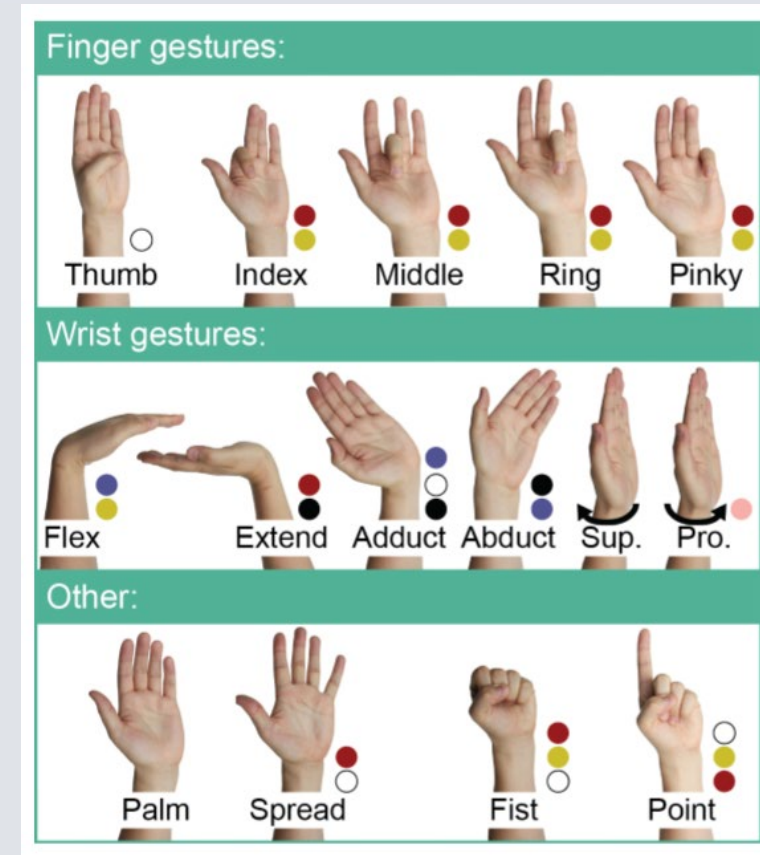
There are many researches done in Hand gestures classification using EMG and EEG (encephalogram).

And there are some bionic arms in market which is very expensive

Most of the bionic arms are working with EEG sensors



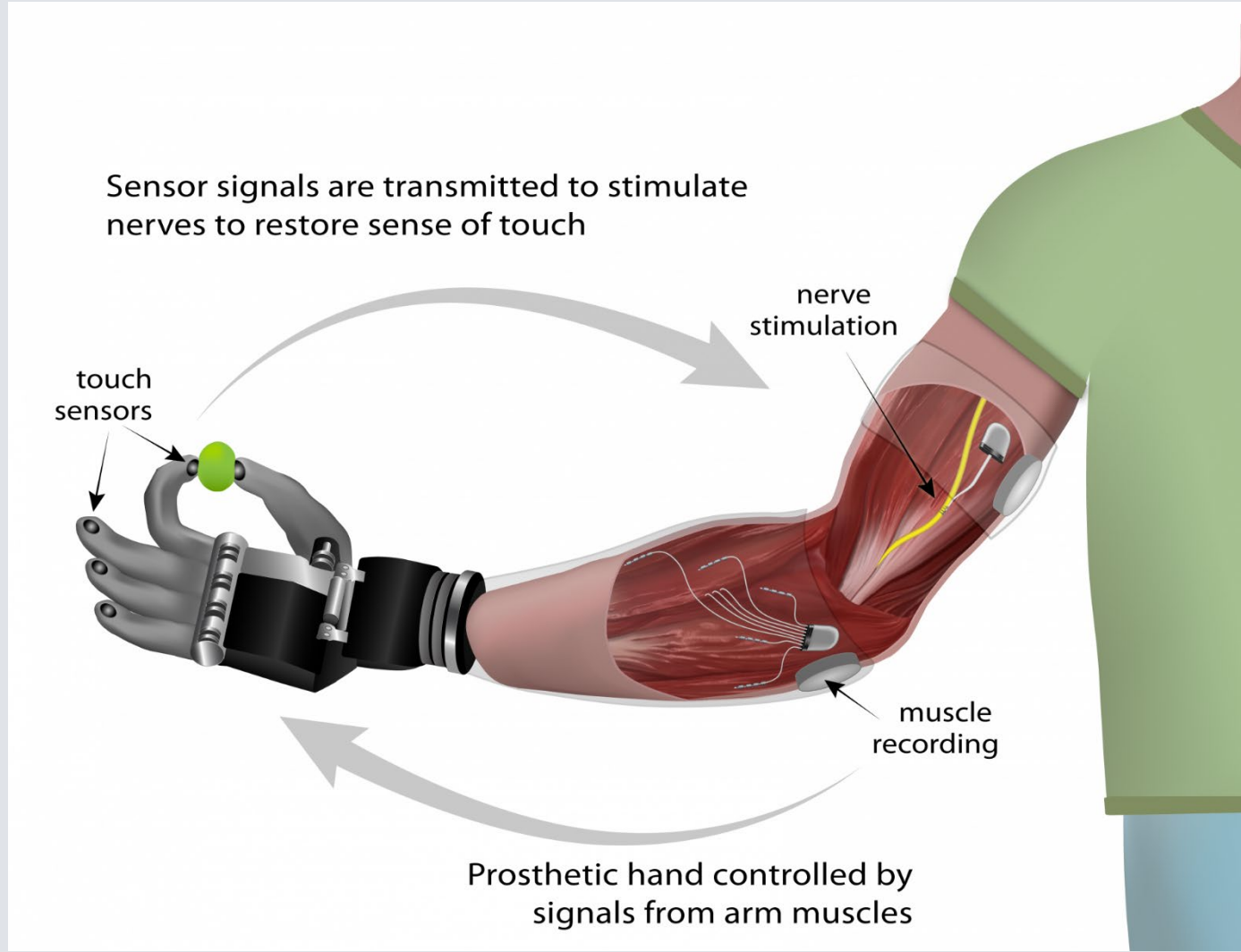
Figure 4: An Image of the prototype worn around the wrist.



What is the gap here ?

When we are using EMG we cant control the pressure applying on the goods when holding them





What is my idea?

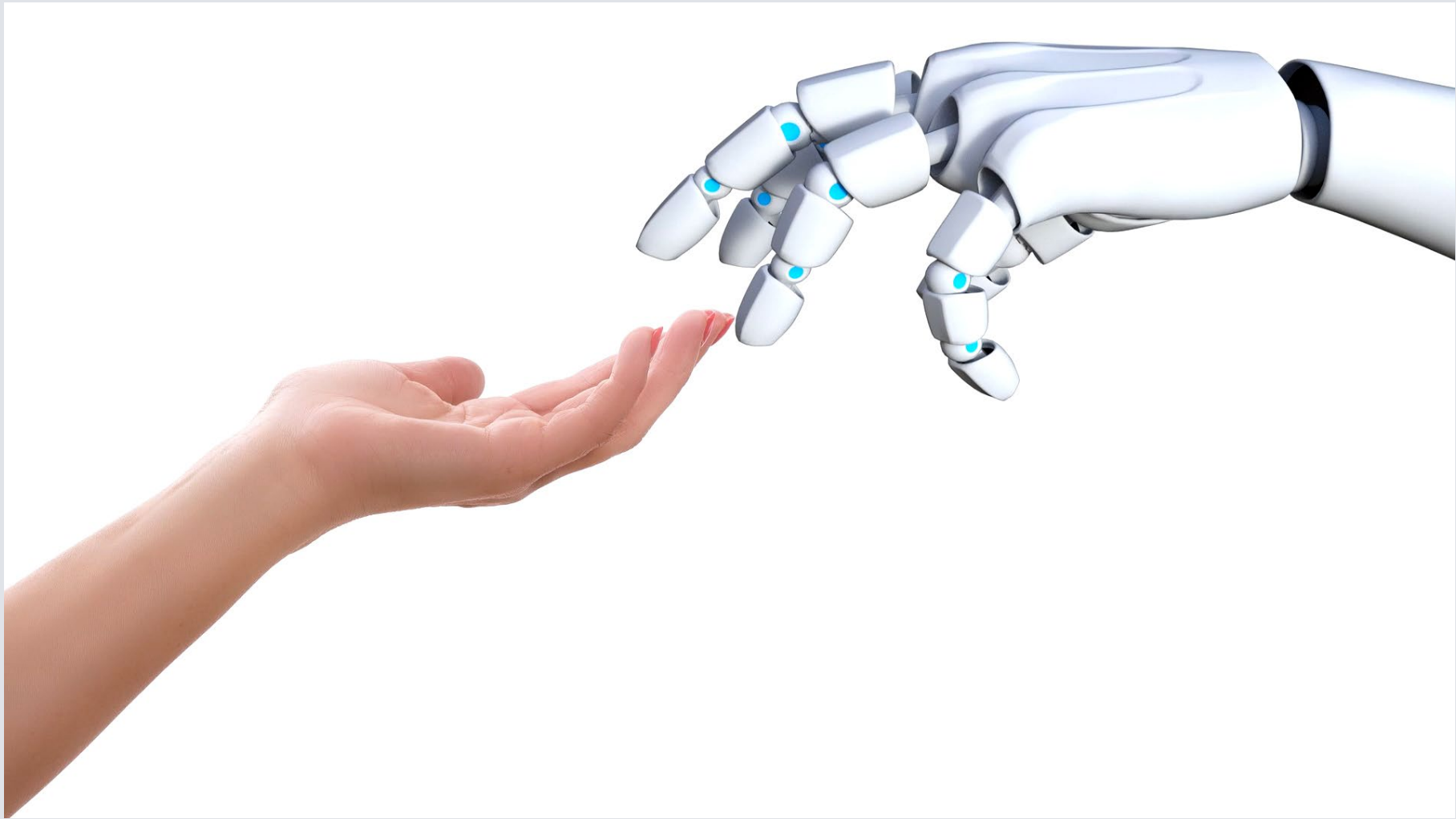
Adding pressure sensors in fingers of robotic hand and measure the pressure
Give feedback in somewhere in forearm



Our human brain can understand the patterns easily

<https://www.youtube.com/watch?v=4c1lqFXHvqI>





RESEARCH

References

Jess, M. et al., 2016. *Practical Hand Gesture Classification with Wrist-Mounted EMG and Pressure Sensing*. s.l., University of Bristol, pp. 2332-2342.

Liao K, X. R. G. J. D. L., 2014. Decoding Individual Finger Movements from One Hand Using Human EEG Signals. *PLoS ONE*, 9(1).



Thank you

