Journal Report 6
10/7/19-10/15/19
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Daily Log

Monday October 7

I found a skeletal model API and read how to use and implement.

Tuesday October 8

Tried to implement but ran into importation issues. Got packages into colab but then still had trouble implementing

Thursday October 10

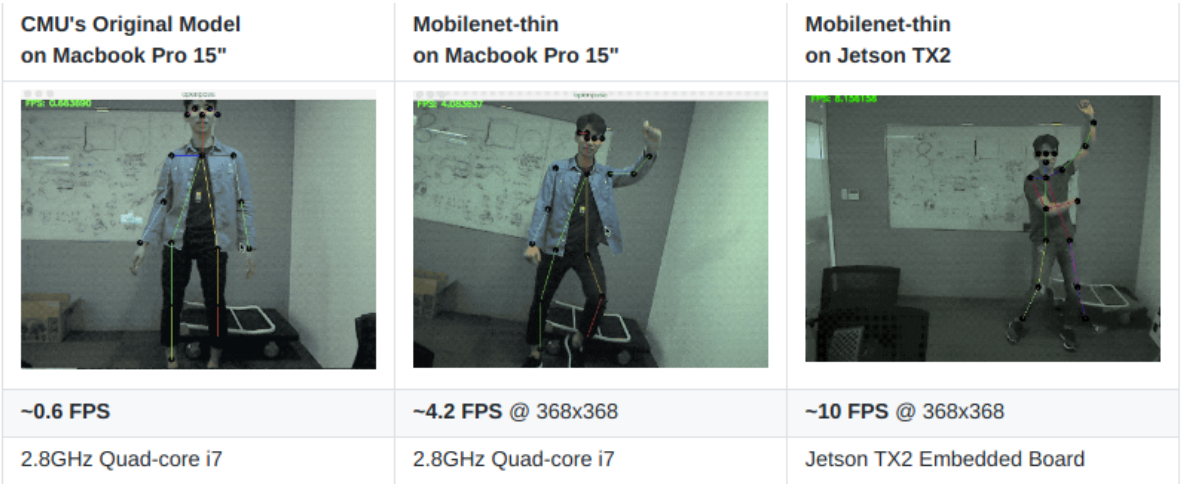
Did more research into how to implement. They have individual python scripts so trying to figure out best way to handle that.

Timeline

Date	Goal	Met
9/30	Track Hand Movement and finish video analysis	No, Almost done. Will have the bounding box by Monday or Tuesday
10/7	Begin to place skeletal model on human	Yes, some of initial research done. Plan to start implementing this week
10/15	Extract position data from the skeletal model	No, Skeletal model hard to implement
10/15	Extract position data from the skeletal model	
10/21	Work with partner to put data into neural network, tweak position data if necessary	

Reflection

The skeletal frame program I found was based on Carnegie Mellon's Paper on "Realtime Multi-Person 2D Pose Estimation using Part Affinity Fields." This paper provides a good basis for my project, as it maps the all the body parts my partner needs for the k-nn. It also is built on a vast data set that I would be unable to recreate. It finds the head, torso, and finds the joints of the limbs: i.e. the upper arm and forearm. This will be essential for later classification, as we will calculate the angle between these joints and such.



The program that I found builds upon this paper by using tensorflow, a python package that I am more familiar with. This program also allows for real-time processing on the CPU which will be essential for later applications. The github instructions, however, have python scripts for different kinds of input types, such as video, webcam, photo, etc. I'm not sure how to implement this in colab because I will not be able to run those directly, nor would it be useful. I may use their code as a framework for my own code.