AutoDrive Project Weekly Report - March 8th

1. Fails of the week

- None to report

2. Successes of the week

- Able to run a pre-installed neural network after successfully installing it in a separate virtual machine
- Another leap in improving our algorithm through parallelizing the work of recording and processing the individual frames over separate process threads
- Running on separate threads allow the algorithm to capture multiple consecutive frames without reinitializing the buffer, effectively reduce the time it takes to record an image from the camera.
- A single thread running the algorithm now takes total of 0.06 second to process the captured frame and actuate the steering of the vehicle.
- Code refactoring
- Reviewed comments of usability test protocol draft
- Writing final usability test protocol

3. Difficulties this week

- Having problem installing the dependency for the SDK of the Movius Compute Stick onto the Raspberry Pi
- Now we introduce multi-threading in our algorithm, the frames per second is no longer a good metric to measure the efficiency of the algorithm, since the algorithm is no longer fully sequential and its fps will depend on how many threads we are arbitrary giving the algorithm to process the individual frame (certainly, this performance gain plateaus at a fixed number of threads)
- From now on, we should measure the algorithm through its processing delay (the time between the algorithm the capturing the image and processing it).
- Usability test protocol draft was a flop

4. Goals for next week

- Continue the work on setting up the environment necessary to use the Movidius Compute Stick to speed up the inference of our neural network.
- Rethink user testing plans
- Finish writing final usability test protocol
- Spring break