AutoDrive Project Weekly Report - November 2nd

1. Fails of the week

- Software: we've made great progress on the model this week. The model is not driving the car very smoothly in the autonomous mode. We need to enhance the stability of the model to ensure security in the autonomous mode.

2. Successes of the week

- Software: The udacity simulator works well! We've set up a 5 layers convolutional deep learning network using TensorFlow that can learn from image data and steer the car in autonomous mode.
- HF: Designed experiment on vertical acceleration

3. Difficulties this week

- Software
    - Training the model takes hours - we are currently training the model on a laptop CPU, and we need to look into ways to train the model more efficiently by running the model on Google Cloud.
- HF: Some of the work between research and experiment (design and preparation) is just time consuming

4. Goals for next week

- Software
    - Further train the model and look into ways to enhance stability and performance
    - Come up with metrics to quantify and evaluate self-driving quality - factors to consider: reaction time, steering success rate, vehicle stability and driving smoothness
- HF
    - Conduct experiment on vertical acceleration and physical + psychological comfort
    - More overall background research and synthesis