1. Need to work more upon story
2. AI vs Machine learning vs Deep Learning
3. Club deep learning applications into vision, video, natural language processing
4. Work more upon human brain and neural networks
5. Add more information about gradient descent
6. Add links to images in driving\_log.csv to map it to steering angle. Also brief through one section of track
7. Work on demo using TensorBoard
8. Divide tensorboard into three different slides
9. Remove SapientNitro logo

Script:

1. Intro
   * Names, excited about staying back, say the name of topic
   * Behavioral cloning- machine imitating some complex human task with ease
   * Deep – almost 20 news articles every week, extensively used, future for technology
2. Agenda
   * Run through
3. Conventional –
   * Everything about if conditions, and loops for multiple
   * Fails for new scenario
   * ML uses training data and makes decision on its own
   * But ML needs labelled data
4. AI vs ML vs Deep
   * AI not used correctly, just referred to Hello World!. Major AI applications till 1980 were based on conventional coding
   * ML evolved after 1980s, used to generalize behavior. But involves a lot of maths for decision making. Low accuracy on test data set.
   * Deep learning present from 1990 as part of neural networks, but came into use after 2012. Because of high computing GPUs and large set of labelled data. Accuracy more than 95%, doesn’t confuse with more data
5. Building blocks
   * Neural network is building block. Input and fire activation
   * Sum of dot products mathematically. Simple for computing
6. Human brain and neural networks
   * Eyes, visual cortex, V1, V2, V3, V4 layers. Beginning layers pick simple features, dense layers pick complex features
   * Orientations, forming objects and shapes
   * Talk about How deep?
7. How about Learning
   * Play the video
   * Talk about error and accuracy
8. Autonomous driving
   * Simulator – Open source Udacity
   * Features of track
   * Training mode, demonstrate the track, free navigation
   * Recording mode, Cameras installed and taking pictures for every frame. Show the excel sheet
   * Training is done using NVidia’s End to End deep learning architecture
   * Go to autonomous mode with constant speed
9. TensorFlow and Tensorboard
   * TensorFLow is open source, Google, widely used. We used Keras which uses TF and python
   * TB is a flash light for the black box. DL is a black box
10. TB in action
    * One with zero weights – Rookie mistake
    * Mistake is covered
11. Transfer learning
    * Training for one type of example, machine generalizes on other
    * Not possible to transfer experience with humans
    * Demo