Capstone Project Proposal

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Project:

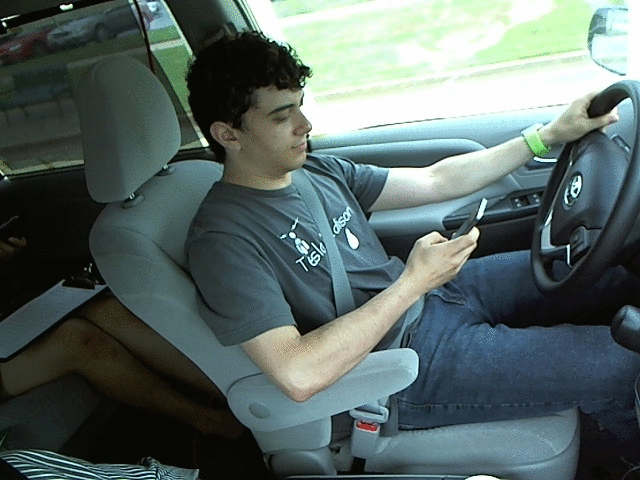
Kaggle competition on Distracted driver detection

Motivation:

**Can Computer Vision spot a distracted Driver?**

According to the CDC motor vehicle safety division, [one in five car accidents](http://www.cdc.gov/motorvehiclesafety/distracted_driving/) is caused by a distracted driver. Sadly, this translates to 425,000 people injured and 3,000 people killed by distracted driving every year.

State Farm has sponsored a competition to detect a distracted driver using 2D image captures from a dashboard camera.



With a simple dashbaord camera if we can detect and deter a distracted driver, we could potentially avoid a number of accidents.

Proposal:

Create an image classifier that outputs the likelihood of the image being in one of the predefined classes:

* c0: safe driving
* c1: texting - right
* c2: talking on the phone - right
* c3: texting - left
* c4: talking on the phone - left
* c5: operating the radio
* c6: drinking
* c7: reaching behind
* c8: hair and makeup
* c9: talking to passenger

Image classification of this nature will need Convolutional Neural Networks and deep learning.

The train and test datasets are provided by Kaggle. I propose to use the labeled training dataset , split into training, test and validation groups to model train and test my classifier. The images are of 480x680 pixel resolution. I plan to use lower resolution images for my initial exploration phase. Finally I'd like to make a submission to Kaggle.