Proposal:

Distracting driver detection based on deep learning

**Research objective:**

According to the National Highway Traffic Safety Administration, one in ten fatal crashes and two in ten injury crashes were reported as distracted driver accidents. In an attempt to mitigate these alarming statistics, this paper aims to use deep learning technology to detect whether drivers are distracted or not. By doing this, we can give warnings to the monitor as the same time the driver shows some signs of distraction.

**Literature review:**

[Distracted driver detection by combining in-vehicle and image data using deep learning](https://www.sciencedirect.com/science/article/pii/S1568494620305950)

[Fatigue driving recognition based on deep learning and graph neural network](https://www.sciencedirect.com/science/article/abs/pii/S1746809421001956)

**Used dataset:**

From Kaggle: [Distraction Driver Detection Project](https://www.kaggle.com/ismailchaida/cnn-to-detect-driver-actions#Distraction-Driver-Detection-Project)

**Tentative method:**

First, we tend to detect the driver’s face using YOLOv5. Furthermore, we aim to detect whether the driver wears a seat belt or if he/she is answering phone calls.

**Model evaluation:**

We will take the driver's photos as a data set to recognize their faces and behaviors, judge whether they have unsafe driving behaviors (not wearing seat belts or answering phones), and finally return the processed images.