Task

To write an algorithm to identify unique video frames in a video.

Description

1. Download the following video from the given link. Note the file size is 10 Gb as the video is around 10 hours long.
   https://drive.google.com/open?id=1eAY-xjQKfHV2J0RIcdkt0z1IdTpeV1iq
2. Design a solution in Python(or any language of your choice) that can extract unique frames from the video. Unique frames can be defined as frames with visible change in illumination, change in objects, movement to a new location with no overlap with the previous one.
3. The output can be on a jupyter notebook defining the steps and the algorithm implemented. If you are not using python please submit the code and steps for execution.
4. Any approach could be used to solve the problem & is not specific to machine learning.
5. If the video file size is too big that you are not able to download. You can use the time lapse video of the journey that can be found here. But, only use it if you do not have enough bandwidth to download the 10Gb one.
   https://drive.google.com/file/d/1y5OsU19TxrOSnJyZHp4C969AhL-nvkFh/view?usp=sharing

Bonus Points

1. Bonus Points: For having a measure of similarity between images as a tunable parameter where if the similarity score is set to a high value then images with a little difference are also selected and vice versa.
2. If the program can take in multiple files and implement the same across files.

Deadline

- On or before Feb 20, 2020

Logistics

1. Jupyter notebook is open source and can be used for free.
2. Contact mohit@buffautomation.com if you need to buy anything or need cloud access.

Terms and Conditions

All the code that is written will become Buffalo Automation's Intellectual Property and there might be an NDA that needs to be signed stating similar terms.