

Traffic



Proposer

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XO (Executive Officer)

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"identifying ML image/video processing tools and resources"

Hackathon Organizer Mentor

PROBLEM STATEMENT:

Can readily available data, specifically, video from state traffic cameras, be used to estimate various human activity levels needed to better understand the COVID-19 infection rate. These estimates may be useful to know to better evaluate the current reduction in activity since the crisis started, and to estimate the rate of increase in human activity as regions in the state and country begin to "open up" and move away from the current "shelter-in-place" practice.

This data is raw, and is not classified, and lacks the important features need to do analysis against epidemiological data.

Fortunately, advanced in machine learning toolsets have made these types of data reduction less impossible that before.

DELIVERABLE:

The primary deliverable will be an initial classification and annotation of features for a collection of traffic camera videos currently being captured around the state of Delaware. Ideally, these features should be automatically generated using available or modified machine learning image processing tools. Alternately, the data lends itself to manual annotation as the visual scenes are quite simple.

A second deliverable will be the actual traffic video data set for others to use in experiments of this type.

A stretch goal would be an initial analysis of some human activity measure derived from the data set compared to COVID-19 epidemiological data.

SKILLS NEEDED:

Need help to do work on identifying and adapting existing image/video classifiers, manual annotation for training, and conventional data analysis is needed to produce progress or results at the Friday event.

DATA:

The traffic video data set and supporting descriptions and documentation for this effort can be found in this UD Google drive

[_SHARED-UD-TRAFFIC](#)

in the directory [DATASET](#). The actual data set is readable by everyone at UD.

updated 05/07/20 12:01

Other portions of the data set Google drive will be read-write to the UD community. As mistakes can and will be made, make sure any critical data you care about place in this drive is backed up just in case.

Unfortunately, all read-write data and directories must be placed into the READ-WRITE-AREA directory (not the top-level directory, , else anyone would be able to delete the primary data set.

[_SHARED-UD-TRAFFIC/READ-WRITE-AREA](#)

Discussion on this task can be found in the [#traffic](#) channel of the [UD COVID-19 Hackathon Slack channel](#).

You may join the Slack here

udcovidhackathon.slack.com

AUTHOR:



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SIGN UP:

interested organizers sign up here