Introduction to Computer Vision – 22928
Final Project – 2021a

Font recognition

Submission date – 21/1/2021

Identify 3 fonts in "real" images:

Ubuntu Mono

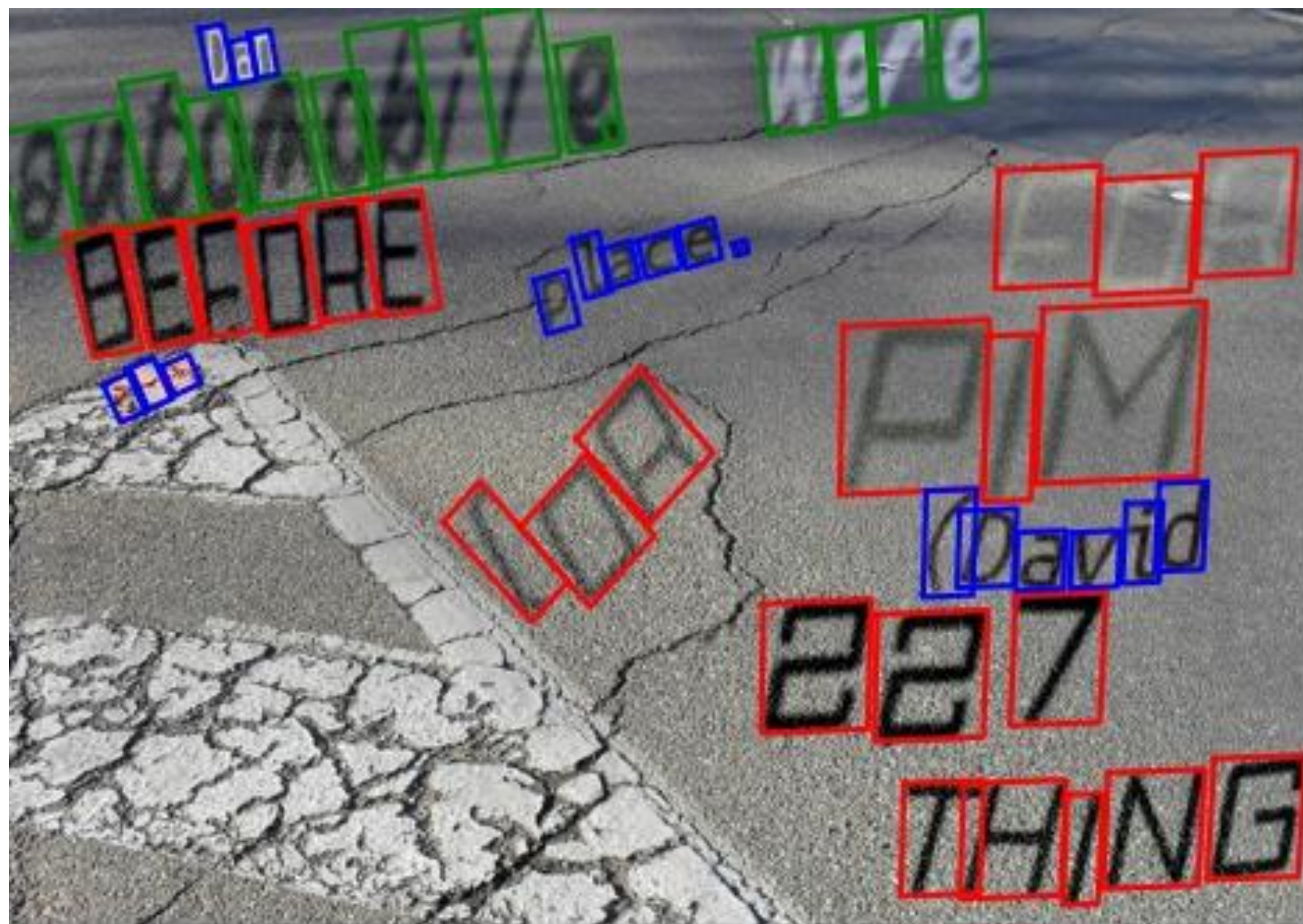# SKYLARK

sweet puppy

Dan automobile were

BEFORE place. DIM

(David

227

THING

The challenge

- Your goal is to correctly recognize the font for each character in each image.
- Train set – images with labels:
  - https://drive.google.com/file/d/1h5yzTRLFu_1cVkYPOs98RuEPB3Rdc5T-/view?usp=sharing
- Test set – will be hidden until the last days of the challenge.
- Additional data may be given later.
- Develop a model
- Document it and report performance.

Where to start

- Download the training-set from –

- https://drive.google.com/file/d/1h5yzTRLFu_1cVkYPOs98RuEPB3Rdc5T-/view?usp=sharing

- Zip file contain h5 file with all the data + image folder (just for visualization and debug)

- Dataset has 760 images, 12238 characters from 3 fonts.

- In addition to the images, each image has:
  - Word bounding boxes
  - Character bounding boxes
  - Text
  - Font label for each character

How to read the dataset

- Install h5py (pip install h5py – or with anaconda)

```
import h5py
db = h5py.File(file_name, 'r')
im_names = list(db['data'].keys())

im = im_names[0]
img = db['data'][im][:]
font = db['data'][im].attrs['font']
txt = db['data'][im].attrs['txt']
charBB = db['data'][im].attrs['charBB']
wordBB = db['data'][im].attrs['wordBB']
```

About the dataset

- Created using the code at –
  - https://github.com/ankush-me/SynthText

- You may create additional training images. If you like …

Develop

- Use any of the methods learned in class.

- Use any method you can find a description for in any paper.

- Implement it yourself in Python
    – Including OpenCV and scikit-learn
    – Any other package need to be approved
- DO NOT USE UNAUTHORIZED CODE

Document - Report

- Write a detailed document explaining your method:
  - No more than 10 pages,
  - PDF.

- Show results

- Code must be stand alone (and running!).

- Pickle file with the final model.

- Document must cover all aspects of your work.

Late submission

- Expected to be submitted in time.

- Otherwise 2 points per late day.

- Up to 40 points == 20 days late.

- Later than that – the course is failed :(

Grading

- Accuracy (how well did you do)

- Performance (how fast do you do it)

- Novelty (how new is your idea)

  - May build on existing ideas and still be novel

- Document and code organization

- Final grade is on a curve - if you are worst (your method performs worst), you'll get the worst grade and it will be low

Good Luck!!