Security Level:

2017 Image Deblurring Competition Description

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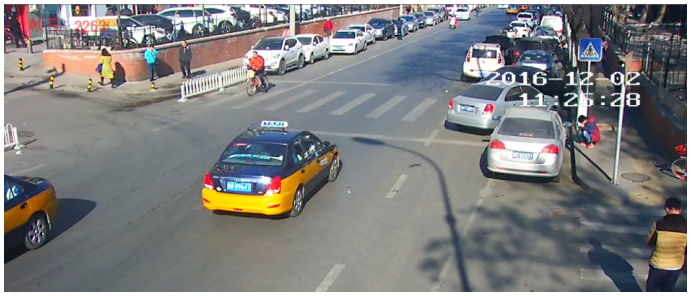
Index

- Background
- Input
- Goal
- Materials
- Evaluation Method

Background

- This competition aims to motivate research around Deblurring technology and its application in the specific context of License Plate (LP) images.
- In the scene of surveillance, sometimes images photographed by IP Cameras are not so clear and ideal due to a variety factors. Among them, blurring images are a big challenge to our license plate recognition (LPR).
- In order to improve our system performance, we expect the technology of image deblurring can solve this practical problem.



Input

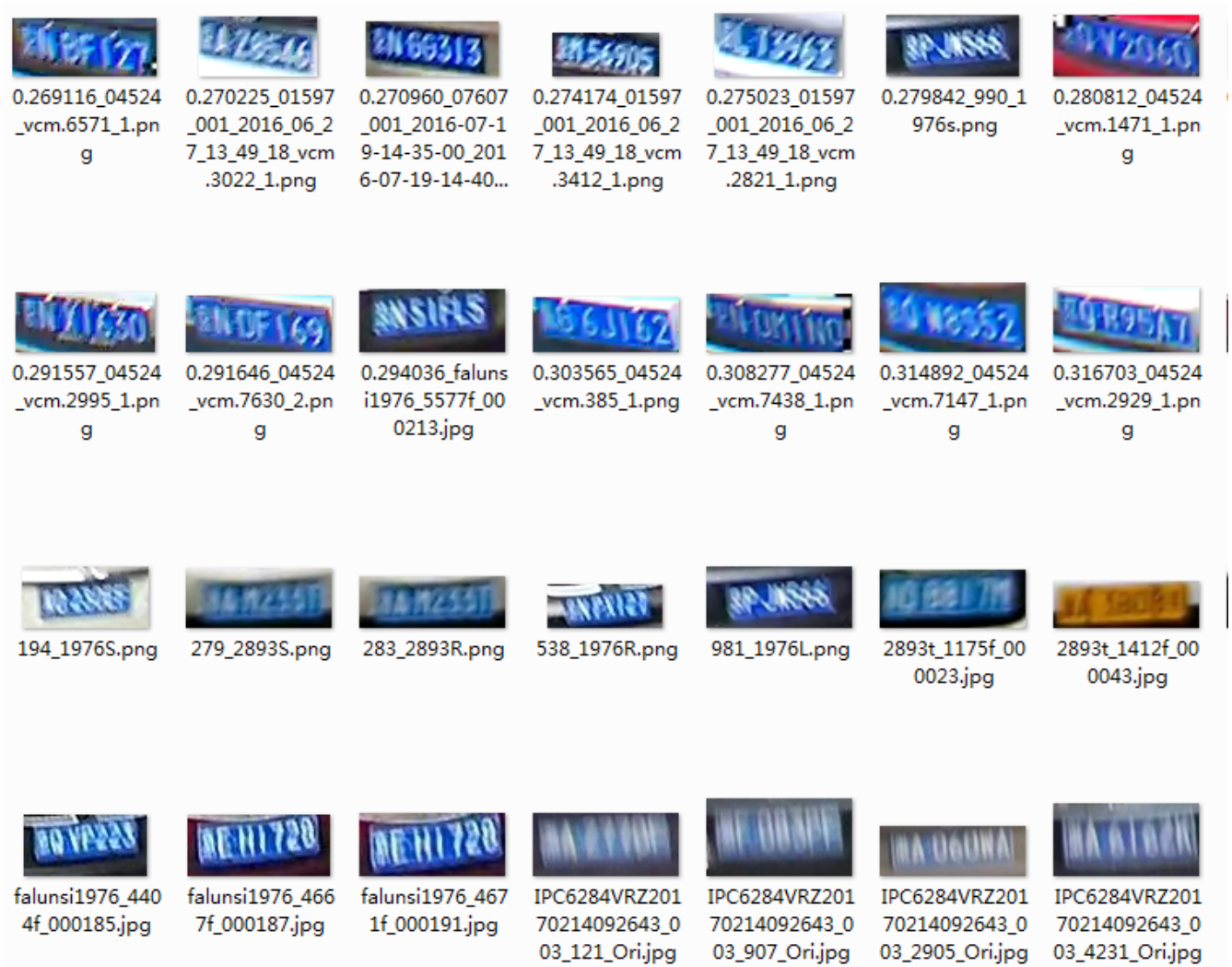
- The cropped LP images (by our detection method or selec t manually)


Size of LPs: 60pix×15pix~200pix×50pix

- The pictures are taken with a stationary camera in theory.
  - Motion blur – Different blur lengths, max is about 25 pixel s.

    Different direction ranges, 0~180°.
  - Out-of-focus /Gaussian blur – The size is smaller than 20x2 0.
  - Noise – Very complicated in different images of low qualit y.
  - Compression –Images are formatted .jpg/.png, etc.

- Examples


0.269116_04524_vcm.6571_1.png
0.270225_01597_001_2016_06_27_13_49_18_vcm.3022_1.png
0.270960_07607_001_2016-07-19-14-35-00_2016-07-19-14-40...
0.274174_01597_001_2016_06_27_13_49_18_vcm.3412_1.png
0.275023_01597_001_2016_06_27_13_49_18_vcm.2821_1.png
0.279842_990_1976s.png
0.280812_04524_vcm.1471_1.png
0.291557_04524_vcm.2995_1.png
0.291646_04524_vcm.7630_2.png
0.294036_falunsi1976_5577f_000213.jpg
0.303565_04524_vcm.385_1.png
0.308277_04524_vcm.7438_1.png
0.314892_04524_vcm.7147_1.png
0.316703_04524_vcm.2929_1.png
194_1976S.png
279_2893S.png
283_2893R.png
538_1976R.png
981_1976L.png
2893t_1175f_000023.jpg
2893t_1412f_000043.jpg
falunsi1976_4404f_000185.jpg
falunsi1976_4667f_000187.jpg
falunsi1976_4671f_000191.jpg
IPC6284VRZ20170214092643_003_121_Ori.jpg
IPC6284VRZ20170214092643_003_907_Ori.jpg
IPC6284VRZ20170214092643_003_2905_Ori.jpg
IPC6284VRZ20170214092643_003_4231_Ori.jpg

Goal

- One purpose of doing deblurring work is to go further than what can be physically seen.
  - The original images are not discernible. After processing, we can recognize those characters by the naked eyes.
  - The accuracy ratio using our DL based recognition method can be improved.

- There are no restrictions on what methods may be used.
  Traditional or deep learning based methods are both accepted.

Materials

- Images
  - 4000 clear cropped LP images, photographed by IP Ca meras in surveillance scenes. (for training if necessary)
  - 100 labeled blurred LP images, photographed by IP Ca meras in surveillance scenes. (for test)

- Software
  - A scoring software, which can output the accuracy rate of input LP images’ characters. (for self-verifying)

Evaluation Method

- Subjective test: experts evaluate the image quality after pr ocessed.

- Objective test: we will use a scoring software (the same ver sion will be given to participants) to evaluate the results. T he higher accuracy rate, the higher score.

- Final score: we will determine the weights of each index an d obtain a comprehensive evaluated score.

Thank you

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