Bjontegaard metric manual

(version 1.0)

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http://www.gici.uab.es - http://gici.uab.cat/GiciWebPage/downloads.php

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1   Description

This source codes are the implementation of the Bjontegaard metric [1], and the source code is a Python version of the Matlab function present in [2].

This implementation can deal with more than 4 RD points, which is the limitation of some other Bjontegaard metric implementations, e.g., the VCEG Excel plugin [3].

2   Requirments

This software is programmed using Python 3 language, so you might need a Python 3.x installed to run this application. We have used Python 3.4.2 in Ubuntu 14.10.

If you do not have the Python module NUMPY pre-installed, you also need to download and install it from [4] (Note: you need to install *python3-numpy*, instead of *python-numpy*).

3   Usage

To use the implementation, first you should put the RD data in one text file following this rule: the Rate data are in Column 1 and 3, and their corresponding PSNR are in Column2 and 4.
The example of using the implementation **BjontegaardMetric_Python3.py** is shown below. You can run the following command in the terminal in Linux and Unix system or in the Command Prompt in Windows:

```
>> cd the_path   # go to the path of the file 'BjontegaardMetric_Python3.py'

>> ./BjontegaardMetric_Python3.py   # run the implementation


# then, the implementation will print:
#   "Read data from a text file.
#    Inside the text file, Please put the Rate in Column 1 and 3,
#    and their corresponding PSNR in Column2 and 4.
#    Please enter filename with path: "
# After you typed the path, it will print:
#    "Please enter mode (0 or 1 ?):"
# After you gave the mode, the results will shown in screen.
```

Note, mode 0 is for computing average difference of PSNR, while mode 1 is for computing average difference Rate. More details of mode 0 and 1, please refer to [1]

4 Notes

If you need further assistance, you might want to contact us directly.

References

[1] G. Bjøntegaard, "document VCEG-M33: Calculation of average PSNR differences between RD-curves," in *ITU-T VCEG Meeting, Austin, Texas, USA, Tech. Rep*, 2001.

[2] G. Valenzise, "matlab function of Bjontegaard metric," May 2010. [Online]. Available: http://www.mathworks.com/matlabcentral/fileexchange/27798-bjontegaard-metric/content/bjontegaard.m

[3] S. Pateux and J. Jung, "An Excel add-in for computing Bjontegaard metric and its evolution," in *VCEG Meeting, Marrakech, MA*, 2007.

[4] SciPy.org, "Installing the SciPy Stack," Feb 2015. [Online]. Available: http://www.scipy.org/install.html