lasagne$_v$$isualizer$ $Documentation$

Release 0.1.0

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lasagne_visualizer

1.1 A small python package that lets you have a glimpse at the inner workings of your deep lasagne architectures.

Using ipython notebook you can now live-monitor the weight learning of your models, or just save the generated visualizations when running command line python scripts.

Obviously, having a rough idea of how the weights of your model progress, can guide you in how to tweak your architecture and its parameters. Other frameworks such as Tensorflow have had such visualizations from the start and lasagne_visualizer tries to provide a similar, though much more leight-weight, tool.

The image below gives a flavor of how your visualization might come out to look:

1.2 Example

For an example on how to use lasagne_visualizer in an IPython Notebook, see Finetuning for Image Classification, which borrows the underlying example from ebenolson.

1.3 Installation

Before installing lasagne_visualizer be sure to install both Lasagne and Theano. Lasagne recommends using the bleeding-edge versions (See Lasagne Installation). Then just go: [sudo] pip install lasagne-visualizer

1.4 Further Information

- Free software: MIT license
- Documentation: https://lasagne-visualizer.readthedocs.io.

1.5 Features

- plot the mean/extremal values/1 sigma error band of the weights of lasagne layers as a function of the training epochs

- use modes to either auto-select all trainable/the currently trainable/user-specified layers for plotting
- adjust the range of the weights in the plots
- TODO: enable the plotting of bias weights

1.6 Credits

This package was created with Cookiecutter and the audreyr/cookiecutter-pypackage project template.

Installation

2.1 Stable release

To install lasagne_visualizer, run this command in your terminal:

```
$ pip install lasagne_visualizer
```

This is the preferred method to install lasagne_visualizer, as it will always install the most recent stable release.

If you don't have pip installed, this Python installation guide can guide you through the process.

2.2 From sources

The sources for lasagne_visualizer can be downloaded from the Github repo.

You can either clone the public repository:

```
$ git clone git://github.com/SimonKohl/lasagne_visualizer
```

Or download the tarball:

```
$ curl  -OL https://github.com/SimonKohl/lasagne_visualizer/tarball/master
```

Once you have a copy of the source, you can install it with:

```
$ python setup.py install
```

Usage

To use lasagne_visualizer in a project:

```python
import lasagne_visualizer
```

Contributing

Contributions are welcome, and they are greatly appreciated! Every little bit helps, and credit will always be given.

You can contribute in many ways:

4.1 Types of Contributions

4.1.1 Report Bugs

Report bugs at https://github.com/SimonKohl/lasagne_visualizer/issues.

If you are reporting a bug, please include:

- Your operating system name and version.
- Any details about your local setup that might be helpful in troubleshooting.
- Detailed steps to reproduce the bug.

4.1.2 Fix Bugs

Look through the GitHub issues for bugs. Anything tagged with "bug" and "help wanted" is open to whoever wants to implement it.

4.1.3 Implement Features

Look through the GitHub issues for features. Anything tagged with "enhancement" and "help wanted" is open to whoever wants to implement it.

4.1.4 Write Documentation

lasagne_visualizer could always use more documentation, whether as part of the official lasagne_visualizer docs, in docstrings, or even on the web in blog posts, articles, and such.

4.1.5 Submit Feedback

The best way to send feedback is to file an issue at https://github.com/SimonKohl/lasagne_visualizer/issues.

If you are proposing a feature:

- Explain in detail how it would work.

- Keep the scope as narrow as possible, to make it easier to implement.

- Remember that this is a volunteer-driven project, and that contributions are welcome :)

4.2 Get Started!

Ready to contribute? Here's how to set up *lasagne_visualizer* for local development.

1. Fork the *lasagne_visualizer* repo on GitHub.

2. Clone your fork locally:

```
$ git clone git@github.com:your_name_here/lasagne_visualizer.git
```

3. Install your local copy into a virtualenv. Assuming you have virtualenvwrapper installed, this is how you set up your fork for local development:

```
$ mkvirtualenv lasagne_visualizer
$ cd lasagne_visualizer/
$ python setup.py develop
```

4. Create a branch for local development:

```
$ git checkout -b name-of-your-bugfix-or-feature
```

Now you can make your changes locally.

5. When you're done making changes, check that your changes pass flake8 and the tests, including testing other Python versions with tox:

```
$ flake8 lasagne_visualizer tests
$ python setup.py test or py.test
$ tox
```

To get flake8 and tox, just pip install them into your virtualenv.

6. Commit your changes and push your branch to GitHub:

```
$ git add .
$ git commit -m "Your detailed description of your changes."
$ git push origin name-of-your-bugfix-or-feature
```

7. Submit a pull request through the GitHub website.

4.3 Pull Request Guidelines

Before you submit a pull request, check that it meets these guidelines:

1. The pull request should include tests.

2. If the pull request adds functionality, the docs should be updated. Put your new functionality into a function with a docstring, and add the feature to the list in README.rst.

3. The pull request should work for Python 2.6, 2.7, 3.3, 3.4 and 3.5, and for PyPy. Check https://travis-ci.org/SimonKohl/lasagne_visualizer/pull_requests and make sure that the tests pass for all supported Python versions.

4.4 Tips

To run a subset of tests:

```
$ python -m unittest tests.test_lasagne_visualizer
```

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