easyml Documentation

Release 0.1.0

Paul Hendricks and Woo-Young Ahn

Jul 09, 2017

Contents

1 Installation 3

2 Documentation 5

3 Vignettes 7

4 Examples 9

5 Citation 11

6 References 13

A toolkit for easily building and evaluating machine learning models.

CHAPTER 1

Installation

You can install the latest development version from PyPI:

```
pip install easymlpy
```

Or from GitHub with:

```
git clone https://github.com/CCS-Lab/easyml.git
cd easyml/Python
pip install .
pip install -r requirements.txt
```

If you encounter a clear bug, please file a minimal reproducible example on github.

CHAPTER 2

Documentation

For more documentation, please see the page on Documentation.

CHAPTER 3

Vignettes

For vignettes, please see the page on Vignettes.

CHAPTER 4

Examples

Load the `easymlpy` library:

```
from easymlpy.datasets import load_prostate, load_cocaine_dependence
from easymlpy.glmnet import easy_glmnet
```

For a dataset with a continuous dependent variable:

```
# Load data
prostate = load_prostate()

# Analyze data
output = easy_glmnet(prostate, 'lpsa',
                     random_state=1, progress_bar=True, n_core=1,
                     n_samples=100, n_divisions=10, n_iterations=5,
                     model_args={'alpha': 1, 'n_lambda': 200})
```

For a dataset with a binary dependent variable:

```
# Load data
cocaine_dependence = load_cocaine_dependence()

# Analyze data
results = easy_glmnet(cocaine_dependence, 'diagnosis',
                      family='binomial',
                      exclude_variables=['subject'],
                      categorical_variables=['male'],
                      random_state=12345, progress_bar=True, n_core=1,
                      n_samples=5, n_divisions=5, n_iterations=2,
                      model_args={'alpha': 1, 'n_lambda': 200})
```

CHAPTER 5

Citation

A whitepaper for easyml is available at https://doi.org/10.1101/137240. If you find this code useful please cite us in your work:

```
@article {Hendricks137240,
    author = {Hendricks, Paul and Ahn, Woo-Young},
    title = {Easyml: Easily Build And Evaluate Machine Learning Models},
    year = {2017},
    doi = {10.1101/137240},
    publisher = {Cold Spring Harbor Labs Journals},
    URL = {http://biorxiv.org/content/early/2017/05/12/137240},
    journal = {bioRxiv}
}
```

CHAPTER 6

References

Hendricks, P., & Ahn, W.-Y. (2017). Easyml: Easily Build And Evaluate Machine Learning Models. bioRxiv, 137240. http://doi.org/10.1101/137240