pyaavso Documentation

Release 0.2

Author

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Contents

pyaavso is a Python library for working with AAVSO (American Association of Variable Star Observers) data. The library is compatible with Python 3.3+.

CHAPTER 1

Features

- reading and writing variable star observations in AAVSO's Visual File Format
- downloading all observation data for a given observer

CHAPTER 2

Installation

Use `pip` to install latest release available at PyPI:

```
pip install pyaavso
```

CHAPTER 3

Usage

The following code uses `VisualFormatWriter` to report a single observation of **SS Cyg** between the outbursts.

```
>>> from pyaavso.formats import VisualFormatWriter
>>> observer_code = 'XYZ'
>>> with open('data.txt', 'wb') as fp:
...     writer = VisualFormatWriter(fp, observer_code)
...     writer.writerow({
...         'name': 'SS CYG',
...         'date': '2450702.1234',
...         'magnitude': '<11.0',
...         'comp1': '110',
...         'chart': '070613',
...     })
```

The `data.txt` file can be now submitted to AAVSO.

CHAPTER 4

Resources

- Documentation
- Issue tracker
- CI server

CHAPTER 5

Author

- Zbigniew Siciarz (zbigniew at siciarz dot net)

CHAPTER 6

License

pyaavso is free software, licensed under the MIT/X11 License. A copy of the license is provided with the source code in the LICENSE file.

CHAPTER 7

Documentation

7.1 Usage

7.1.1 Basic usage

The following example shows how to use **pyaavso** to download all observations by a given observer.

```
import sys
import logging

from pyaavso.formats import VisualFormatWriter
from pyaavso.utils import download_observations


if __name__ == '__main__':
    # configure logging so we can see some informational output
    logger = logging.getLogger('pyaavso.utils')
    logger.setLevel(logging.DEBUG)
    logger.addHandler(logging.StreamHandler())
    try:
        observer_code = sys.argv[1]
    except IndexError:
        print('Usage: python download_observations.py <OBSERVER_CODE>')
    else:
        observations = download_observations(observer_code)
        print('All done.\nDownloaded %d observations.' % len(observations))
        filename = '%s.txt' % observer_code
        with open(filename, 'w') as fp:
            writer = VisualFormatWriter(fp, observer_code)
            for observation in observations:
                writer.writerow(observation)
        print('Observations written to file %s.' % filename)
```

7.2 API reference

7.2.1 pyaavso Package

pyaavso.__init__.**get_version**()

7.2.2 Subpackages

formats Package

visual Module

parsers Package

webobs Module

class pyaavso.parsers.webobs.**WebObsResultsParser**(*html_source*)
Parser for WebObs search results page.

The parser reads an HTML page with search results (presented as a table) and parses the table into a list of observations.

Creates the parser and feeds it source code of the page.

get_observations()
Parses the HTML table into a list of dictionaries, each of which represents a single observation.

utils Module

pyaavso.utils.**download_observations**(*observer_code*)
Downloads all variable star observations by a given observer.

Performs a series of HTTP requests to AAVSO's WebObs search and downloads the results page by page. Each page is then passed to *WebObsResultsParser* and parse results are added to the final observation list.

7.3 Development

7.3.1 Feature roadmap

- implement the Extended File Format
- add VSX search
- add programmatic access to lightcurves generated by LCG
- create an API client for Variable Star Plotter

7.3.2 Contributing

Looking to improve pyaavso? Here's how you can help.

Report issues

If you think you found a **bug** in pyaavso or have a **feature request**, feel free to file an issue. We rely on GitHub for issue tracking. Please, search through existing issues before you report a new one; perhaps your problem was already discussed or fixed.

When submitting an issue, please include the following:

- problem description
- steps to reproduce (a smallest possible code example that reproduces the issue would be most welcome!)
- expected outcome
- actual outcome
- platform information: your operating system, Python version, etc.
- any other relevant information

Contribute code

Contributions to pyaavso source code are accepted as **pull requests** on GitHub. Fork the project, work on it in your repository and when you think your patch is ready, send us a pull request.

License

By contributing your code, you agree to license your contribution under the terms of MIT license (see `LICENSE` file for details).

7.4 Changelog

7.4.1 Unreleased

- none yet

7.4.2 0.2.0

- first **Python 3-only** release!
- Python 3.5 and 3.6 support

7.4.3 0.1.5

- fixed VisualFormatReader bug on Python 3 when input is bytes, not string

7.4.4 0.1.4

- minor packaging and documentation fixes

7.4.5 0.1.3

- Python 3.4 compatibility
- more specific Python version classifiers in setup.py

7.4.6 0.1.2

- added wheel distribution

7.4.7 0.1.1

- less memory-hungry VisualFormatReader

7.4.8 0.1.0

- initial release

CHAPTER 8

Indices and tables

- genindex
- modindex
- search

Python Module Index

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