
ridgeplot

Release 0.1.21

Tomas Pereira de Vasconcelos

Jan 27, 2023

GETTING STARTED

1	Dependencies	3
2	Getting started	5
3	API Reference	9
4	Changelog	15
5	Alternatives	19
6	Contributing	21
	Python Module Index	27
	Index	29

The `ridgeplot` python library aims at providing a simple API for plotting beautiful `ridgeline` plots within the extensive `Plotly` interactive graphing environment.

Bumper stickers:

- Do one thing, and do it well!
- Use sensible defaults, but allow for extensive configuration!

The source code is currently hosted on GitHub at: <https://github.com/tpvasconcelos/ridgeplot>

Install and update using `pip`:

```
pip install -U ridgeplot
```


DEPENDENCIES

- `plotly` - the interactive graphing backend that powers `ridgeplot`
- `statsmodels` - Used for Kernel Density Estimation (KDE)
- `numpy` - Supporting library for multi-dimensional array manipulations

GETTING STARTED

2.1 Sensible defaults

Get started with a simple function call to `ridgeplot()` with sensible (plotly) defaults.

```
import numpy as np

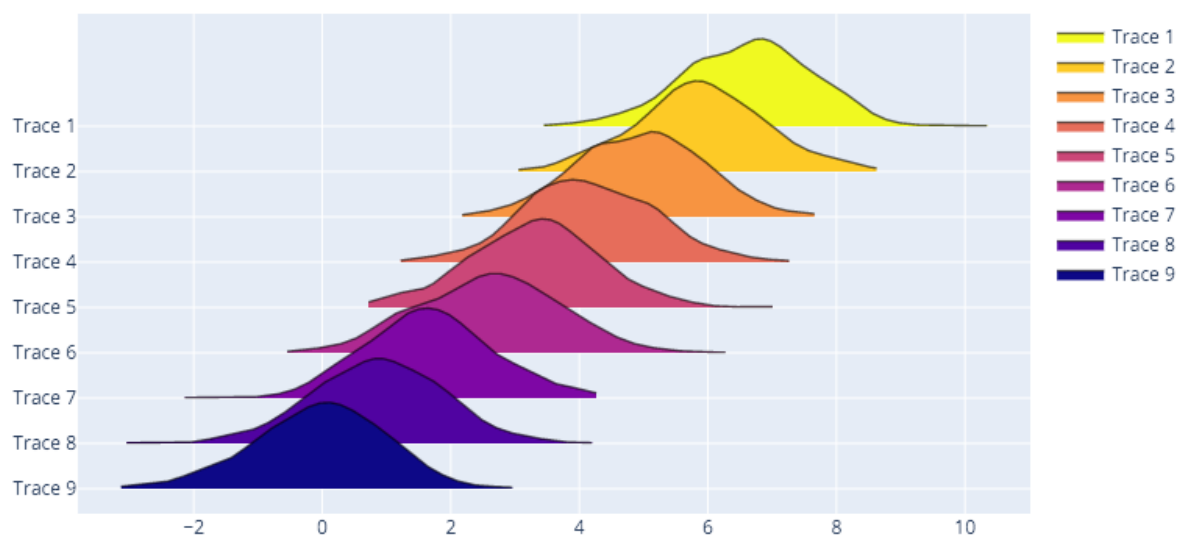
from ridgeplot import ridgeplot

# Put your real samples here...
np.random.seed(0)
synthetic_samples = [np.random.normal(n / 1.2, size=600) for n in range(9, 0, -1)]

# Call the `ridgeplot()` helper, packed with sensible defaults
fig = ridgeplot(samples=synthetic_samples)

# The returned Plotly `Figure` is still fully customizable
fig.update_layout(height=500, width=800)

# show us the work!
fig.show()
```



2.2 Fully configurable

In this example, we will be replicating the first ridgeline plot example in [this from Data to Viz post](#), which uses the *proably* dataset. You can find the *proably* dataset on multiple sources like in the [bokeh python interactive visualization library](#). I'll be using the [same source](#) used in the original post.

```
import numpy as np
from ridgeplot import ridgeplot
from ridgeplot.datasets import load_proably

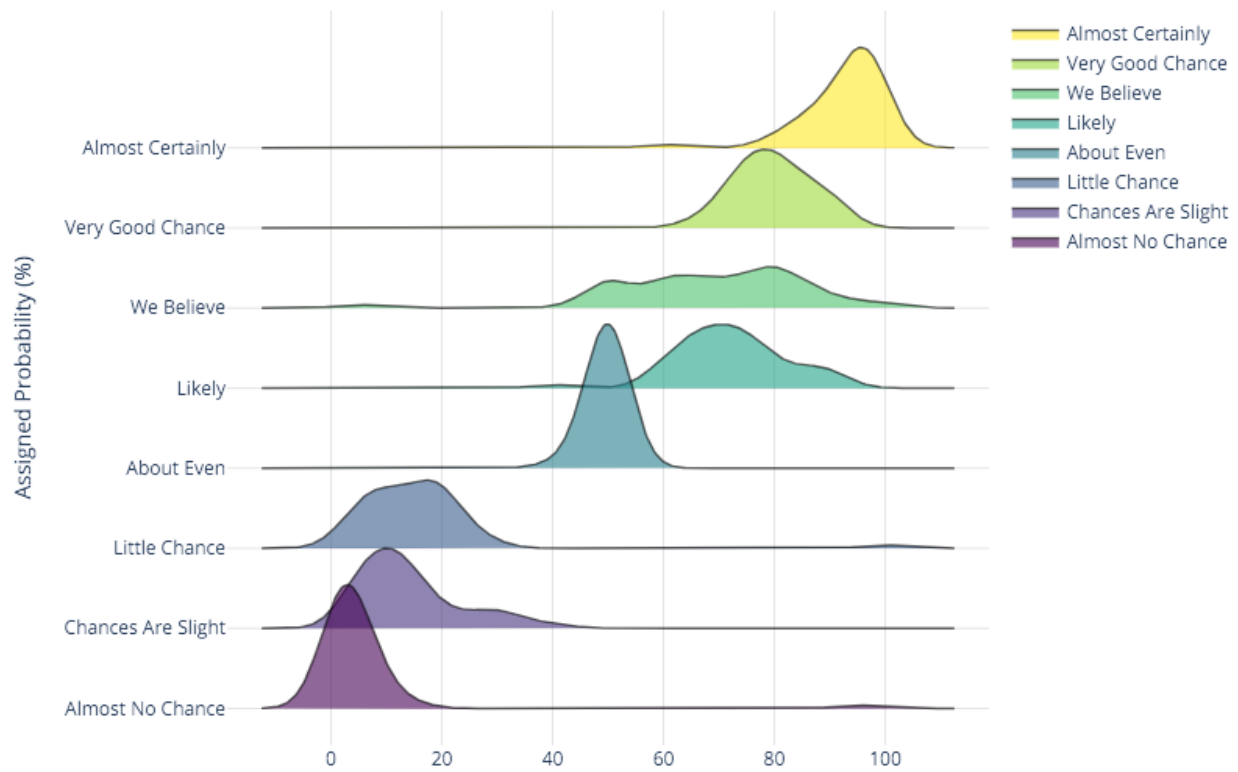
# Load the proably dataset
df = load_proably()

# Let's grab only the subset of columns displayed in the example
column_names = [
    "Almost Certainly", "Very Good Chance", "We Believe", "Likely",
    "About Even", "Little Chance", "Chances Are Slight", "Almost No Chance",
] # fmt: skip
df = df[column_names]

# Not only does 'ridgeplot(...)' come configured with sensible defaults
# but is also fully configurable to your own style and preference!
fig = ridgeplot(
    samples=df.values.T,
    bandwidth=4,
    kde_points=np.linspace(-12.5, 112.5, 400),
    colorscale="viridis",
    colormode="index",
    coloralpha=0.6,
    labels=column_names,
    spacing=5 / 9,
)

# Again, update the figure layout to your liking here
fig.update_layout(
    title="What probability would you assign to the phrase <i>“Highly likely”</i>?",
    height=650,
    width=800,
    plot_bgcolor="rgba(255, 255, 255, 0.0)",
    xaxis_gridcolor="rgba(0, 0, 0, 0.1)",
    yaxis_gridcolor="rgba(0, 0, 0, 0.1)",
    yaxis_title="Assigned Probability (%)",
)
fig.show()
```

What probability would you assign to the phrase *"Highly likely"*?



API REFERENCE

```
ridgeplot.ridgeplot(samples=None, densities=None, kernel='gau', bandwidth='normal_reference',  
                    kde_points=500, colorscale='plasma', colormode='mean-means', coloralpha=None,  
                    labels=None, linewidth=1.4, spacing=0.5, show_annotations=True, xpad=0.05)
```

Return a beautiful ridgeline plot [Figure](#).

You have to specify either `samples` or `densities`, but not both. See `samples` and `densities` below for more information.

Parameters

- **samples** – If `samples` data is specified, Kernel Density Estimation (KDE) will be computed. See `kernel`, `bandwidth`, and `kde_points` for more details and KDE configuration options.
- **densities** (*Optional* *Iterable* *NestedNumericSequence*) – If `densities` arrays are specified instead, the KDE step will be skipped and all associated arguments ignored. Each density array should have shape $(2, N)$, but N may vary with each array.
- **kernel** (*str*) – The Kernel to be used during Kernel Density Estimation. The default is a Gaussian Kernel ("gau"). Choices are:
 - "biw" for biweight
 - "cos" for cosine
 - "epa" for Epanechnikov
 - "gau" for Gaussian.
 - "tri" for triangular
 - "triw" for triweight
 - "uni" for uniform
- **bandwidth** – The bandwidth to use during Kernel Density Estimation. The default is `normal_reference`. Choices are:
 - "scott" - $1.059 * A * \text{nobs}^{**} (-1/5.)$, where A is $\min(\text{std}(x), \text{IQR}/1.34)$
 - "silverman" - $.9 * A * \text{nobs}^{**} (-1/5.)$, where A is $\min(\text{std}(x), \text{IQR}/1.34)$
 - "normal_reference" - $C * A * \text{nobs}^{**} (-1/5.)$, where C is calculated from the kernel. Equivalent (up to 2 dp) to the "scott" bandwidth for gaussian kernels. See [bandwidths.py](#).
 - If a float is given, its value is used as the bandwidth.
 - If a callable is given, its return value is used. The callable should take exactly two parameters, i.e., `fn(x, kern)`, and return a float, where:

- * **x**: the clipped input data
- * **kern**: the kernel instance used
- **kde_points** – This argument controls the points at which KDE is computed. If an int value is passed (default), the densities will be evaluated at `kde_points` evenly spaced points between the min and max of each set of samples. However, you may also specify a custom range by instead passing an array of points. This array should be one-dimensional.
- **colorscale** (*Union[str, ColorScaleType]*) – Any valid Plotly color-scale or a str with a valid named color-scale. Use `get_all_colorscale_names()` to see which names are available or check out [Plotly's built-in color-scales](#).
- **colormode** (*str*) – This argument controls the logic for choosing the color filling of each ridgeline trace. Each option provides a different method for calculating the `colorscale` midpoint of each trace. The default is mode is "mean-means". Choices are:
 - "index" - uses the trace's index. e.g. if 3 traces are specified, then the midpoints will be [0, 0.5, 1].
 - "mean-minmax" - uses the min-max normalized (weighted) mean of each density to calculate the midpoints. The normalization min and max values are the minimum and maximum x-values from all densities, respectively.
 - "mean-means" - uses the min-max normalized (weighted) mean of each density to calculate the midpoints. The normalization min and max values are the minimum and maximum mean values from all densities, respectively.
- **coloralpha** (*Optional[float]*) – If None (default), this argument will be ignored and the transparency values of the specifies color-scale will remain untouched. Otherwise, if a float value is passed, it will be used to overwrite the transparency (alpha) of the color-scale's colors.
- **labels** – A list of string labels for each trace. The default value is None, which will result in auto-generated labels of form "Trace n". If, instead, a list of labels is specified, it must be of the same size/length as the number of traces.
- **linewidth** (*float*) – The traces' line width (in px).
- **spacing** (*float*) – The vertical spacing between density traces, which is defined in units of the highest distribution (i.e. the maximum y-value).
- **show_annotations** (*bool*) – If True (default), it will show the label names as "y-tick-labels".
- **xpad** (*float*) – Specifies the extra padding to use on the x-axis. It is defined in units of the range between the minimum and maximum x-values from all distributions.

Returns

A Plotly [Figure](#) with a ridgeline plot. You can further customize this figure to your liking (e.g. using the `update_layout()` method).

Return type

`plotly.graph_objects.Figure`

Raises

ValueError – If both `samples` and `densities` arguments are not None, or if neither `samples` nor `densities` are specified.

3.1 Color utilities

`ridgeplot.get_all_colorscale_names()`

Get a tuple with all available colorscale names.

3.2 Data loading utilities

`ridgeplot.datasets.load_proably()`

Load the `proably` dataset.

3.3 Internals

3.3.1 Types

protocol `ridgeplot._types.SimpleSequence`

A simple Sequence protocol that inherits from `Collection` and implements a `__getitem__` method.

Classes that implement this protocol must have the following methods / attributes:

`__getitem__(index)`

`ridgeplot._types.Numeric`

A `TypeAlias` for numeric types.

alias of `Union[int, float, number]`

`ridgeplot._types.NumericT`

A `TypeVar` version of `Numeric`.

alias of `TypeVar('NumericT', bound=Union[int, float, number])`

`ridgeplot._types.NestedNumericSequence`

A `TypeAlias` for a sequence of sequences of numeric values.

Examples of valid types:

```
>>> [[1, 2], [3, 4]]
>>> ((1, 2), [3, 4])
>>> np.array([[1, 2], [3, 4]])
>>> np.array([[1, 2], [3, 4]], dtype=np.float32)
```

alias of `Union[SimpleSequence[SimpleSequence[Union[int, float, number]]], ndarray]`

`ridgeplot._types.NestedNumericSequenceT`

Same as `NestedNumericSequence`, but with a `NumericT` type variable bound to `Numeric` instead the `Numeric` type alias.

alias of `Union[SimpleSequence[SimpleSequence[NumericT]], ndarray]`

ridgeplot._types.ColorScaleType

A colorscale is an [Iterable](#) of tuples of two elements:

0. the first element (a *scale value*) is a float bounded to the interval `[0, 1]`
1. the second element (a *color*) is a string representation of a color parsable by Plotly

For instance, The Viridis colorscale would be defined as

```
>>> get_colorscale("viridis")
(0.1111111111111111, 'rgb(72, 40, 120)'),
(0.2222222222222222, 'rgb(62, 73, 137)'),
(0.3333333333333333, 'rgb(49, 104, 142)'),
(0.4444444444444444, 'rgb(38, 130, 142)'),
(0.5555555555555556, 'rgb(31, 158, 137)'),
(0.6666666666666666, 'rgb(53, 183, 121)'),
(0.7777777777777777, 'rgb(110, 206, 88)'),
(0.8888888888888888, 'rgb(181, 222, 43)'),
(1.0, 'rgb(253, 231, 37)')
```

alias of `Iterable[Tuple[float, str]]`

3.3.2 Figure factory

```
class ridgeplot._figure_factory.RidgePlotFigureFactory(densities, colorscale, coloralpha, colormode,
                                                         labels, linewidth, spacing,
                                                         show_annotations, xpad)
```

Refer to [ridgeplot\(\)](#).

draw_base(*x*, *y_shifted*)

Draw the base for a density trace.

Adds an invisible trace at constant *y* that will serve as the fill-limit for the corresponding density trace.

draw_density_trace(*x*, *y*, *label*, *color*)

Draw a density trace.

Adds a density ‘trace’ to the Figure. The `fill="tonexty"` option fills the trace until the previously drawn trace (see [draw_base\(\)](#)). This is why the base trace must be drawn first.

update_layout(*y_ticks*)

Update figure’s layout.

3.3.3 Kernel density estimation (KDE)

`ridgeplot._kde.evaluate_density(samples, points, kernel, bandwidth)`

Evaluate a density function at a set of points.

For a given set of samples, computes the kernel densities at the given points. Both the original points and density arrays are returned.

3.3.4 Color utilities

`ridgeplot._colors.validate_colorscale(colorscale)`

Validate the structure, scale values, and colors of colorscale.

Adapted from `_plotly_utils.colors.validate_colorscale()`.

`ridgeplot._colors.get_all_colorscale_names()`

Get a tuple with all available colorscale names.

`ridgeplot._colors.get_colorscale(name)`

Get a colorscale by name.

Parameters

name (*str*) – The colorscale name. This argument is case-insensitive. For instance, "YlOrRd" and "ylorrd" map to the same colorscale. Colorscale names ending in *_r* represent a *reversed* colorscale.

Raises

ValueError – If an unknown name is provided

`ridgeplot._colors.get_color(colorscale, midpoint)`

Get a color from a colorscale at a given midpoint.

Given a colorscale, it interpolates the expected color at a given midpoint, on a scale from 0 to 1.

3.3.5 Other utilities

`ridgeplot._utils.get_xy_extrema(arrays)`

Get the global x-y extrema (x_min, x_max, y_min, y_max) of a sequence of 2D array-like objects.

Parameters

arrays (*Iterable*[*NestedNumericSequenceT*]) – A sequence of 2D array-like objects.

Returns

A tuple of the form (x_min, x_max, y_min, y_max).

Return type

`Tuple[Numeric, Numeric, Numeric, Numeric]`

Raises

ValueError – If the arrays sequence is empty, or if one of the arrays is empty, or if one of the arrays is not 2D.

Examples

```
>>> get_xy_extrema([[[1, 2], [3, 4]], [[5, 6], [7, 8]]])
(1, 6, 3, 8)
```

class ridgeplot._utils.**LazyMapping**(*loader*)

A lazy mapping that loads its contents only when first needed.

Parameters

loader – A callable that returns a mapping.

Examples

```
>>> from typing import Dict
>>>
>>> def my_io_loader() -> Dict[str, int]:
...     print("Loading...")
...     return {"a": 1, "b": 2}
...
>>> lazy_mapping = LazyMapping(my_io_loader)
>>> lazy_mapping
Loading...
{'a': 1, 'b': 2}
```

CHANGELOG

This document outlines the list of changes to ridgeplot between each release. For full details, see the [commit logs](#).

4.1 Unreleased changes

- ...

4.2 0.1.21

4.2.1 Features

- Add `ridgeplot.datasets.load_probly()` helper function to load the `probly` toy dataset. The `probly.csv` file is now included in the package under `ridgeplot/datasets/data/`. (#80)

4.2.2 Documentation

- Change to `numpydoc` style docstrings. (#81)
- Add a `robots.txt` to the docs site. (#81)
- Auto-generate a site map for the docs site using `sphinx_sitemap`. (#81)
- Change the sphinx theme to `furo`. (#81)
- Improve the internal documentation and some of these internals to the API reference. (#81)

4.2.3 Internal

- Fixed and improved some type annotations, including the introduction of `ridgeplot._types` module for type aliases such as `Numeric` and `NestedNumericSequence`. (#80)
- Add the `blacken-docs` pre-commit hook and add the `pep8-naming`, `flake8-pytest-style`, `flake8-simplify`, `flake8-implicit-str-concat`, `flake8-bugbear`, `flake8-rst-docstrings`, `flake8-rst-docstrings`, etc... plugins to the `flake8` pre-commit hook. (#81)
- Cleanup and improve some type annotations. (#81)
- Update deprecated `set-output` commands (GitHub Actions) (#87)

4.3 0.1.17

- Automate the release process. See `.github/workflows/release.yaml`, which issues a new GitHub release whenever a new git tag is pushed to the main branch by extracting the release notes from the changelog.
- Fix automated release process to PyPI. (#27)

4.4 0.1.16

- Upgrade project structure, improve testing and CI checks, and start basic Sphinx docs. (#21)
- Implement LazyMapping helper to allow `ridgeplot._colors.PLOTLY_COLORSCALES` to lazy-load from `colors.json` (#20)

4.5 0.1.14

- Remove `named_colorscale` from public API (#18)

4.6 0.1.13

- Add tests for example scripts (#14)

4.7 0.1.12

4.7.1 Internal

- Update and standardise CI steps (#6)

4.7.2 Documentation

- Publish official contribution guidelines (`CONTRIBUTING.md`) (#8)
- Publish an official Code of Conduct (`CODE_OF_CONDUCT.md`) (#7)
- Publish an official release/change log (`CHANGES.md`) (#6)

4.8 0.1.11

- `colors.json` was missing from the final distributions (#2)

4.9 0.1.0

- Initial release!

ALTERNATIVES

- `plotly` - from `examples/galery`
- `seaborn` - from `examples/galery`
- `bokeh` - from `examples/galery`
- `matplotlib` - from `blogpost`
- `joyypy` - Ridgeplot library using a `matplotlib` backend

CONTRIBUTING

Thank you for your interest in contributing to ridgeplot!

The contribution process for ridgeplot should start with [filing a GitHub issue](#). We define three main categories of issues, and each category has its own GitHub issue template

- Feature requests
- Bug reports
- Documentation fixes

After the implementation strategy has been agreed on by a ridgeplot contributor, the next step is to introduce your changes as a pull request (see [Pull Request Workflow](#)) against the ridgeplot repository. Once your pull request is merged, your changes will be automatically included in the next ridgeplot release. Every change should be listed in the ridgeplot [Changelog](#).

The following is a set of (slightly opinionated) rules and general guidelines for contributing to ridgeplot. Emphasis on **guidelines**, not *rules*. Use your best judgment, and feel free to propose changes to this document in a pull request.

6.1 Development environment

Here are some guidelines for setting up your development environment. Most of the steps have been abstracted away using the [make](#) build automation tool. Feel free to peak inside [Makefile](#) at any time to see exactly what is being run, and in which order.

First, you will need to [clone](#) this repository. For this, make sure you have a [GitHub account](#), fork ridgeplot to your GitHub account by clicking the [Fork](#) button, and clone the main repository locally (e.g. using SSH)

```
git clone git@github.com:tpvasconcelos/ridgeplot.git
cd ridgeplot
```

You will also need to add your fork as a remote to push your work to. Replace {username} with your GitHub username.

```
git remote add fork git@github.com:{username}/ridgeplot.git
```

The following command will 1) create a new virtual environment (under `.venv`), 2) install ridgeplot in [editable mode](#) (along with all its dependencies), and 3) set up and install all [pre-commit hooks](#). Make sure you always work within this virtual environment (i.e., `$ source .venv/bin/activate`). On top of this, you should also set up your IDE to always point to this python interpreter. In PyCharm, open Preferences -> Project: ridgeplot -> Project Interpreter and point the python interpreter to `.venv/bin/python`.

```
make init
```

The default and **recommended** base python is python3.7 . You can change this by exporting the `BASE_PYTHON` environment variable. For instance, if you are having issues installing scientific packages on macOS for python 3.7, you can try python 3.8 instead:

```
BASE_PYTHON=python3.8 make init
```

If you need to use jupyter-lab, you can install all extra requirements, as well as set up the environment and jupyter kernel with

```
make init-jupyter
```

6.2 Pull Request Workflow

1. Always confirm that you have properly configured your Git username and email.

```
git config --global user.name 'Your name'
git config --global user.email 'Your email address'
```

2. Each release series has its own branch (i.e. `MAJOR.MINOR.x`). If submitting a documentation or bug fix contribution, branch off of the latest release series branch.

```
git fetch origin
git checkout -b <YOUR-BRANCH-NAME> origin/x.x.x
```

Otherwise, if submitting a new feature or API change, branch off of the `main` branch

```
git fetch origin
git checkout -b <YOUR-BRANCH-NAME> origin/main
```

3. Apply and commit your changes.
4. Include tests that cover any code changes you make, and make sure the test fails without your patch.
5. Add an entry to `CHANGES.md` summarising the changes in this pull request. The entry should follow the same style and format as other entries, i.e.

- Your summary here. (#XXX)

where `#XXX` should link to the relevant pull request. If you think that the changes in this pull request do not warrant a changelog entry, please state it in your pull request's description. In such cases, a maintainer should add a `skip news` label to make CI pass.

6. Make sure all integration approval steps are passing locally (i.e., `tox`).
7. Push your changes to your fork

```
git push --set-upstream fork <YOUR-BRANCH-NAME>
```

8. [Create a pull request](#) . Remember to update the pull request's description with relevant notes on the changes implemented, and to [link to relevant issues](#) (e.g., `fixes #XXX` or `closes #XXX`).
9. Wait for all remote CI checks to pass and for a ridgeplot contributor to approve your pull request.

6.3 Continuous Integration

From GitHub's [Continuous Integration and Continuous Delivery \(CI/CD\) Fundamentals](#):

*Continuous Integration (CI) automatically builds, tests, and **integrates** code changes within a shared repository.*

The first step to Continuous Integration (CI) is having a version control system (VCS) in place. Luckily, you don't have to worry about that! As you have already noticed, we use [Git](#) and host on [GitHub](#).

On top of this, we also run a series of integration approval steps that allow us to ship code changes faster and more reliably. In order to achieve this, we run automated tests and coverage reports, as well as syntax (and type) checkers, code style formatters, and dependency vulnerability scans.

6.3.1 Running it locally

Our tool of choice to configure and reliably run all integration approval steps is [Tox](#), which allows us to run each step in reproducible isolated virtual environments. To trigger all checks, simply run

```
tox
```

It's that simple !! Note only that this will take a while the first time you run the command, since it will have to create all the required virtual environments (along with their dependencies) for each CI step.

The configuration for Tox can be found in [tox.ini](#).

Tests and coverage reports

We use [pytest](#) as our testing framework, and [pytest-cov](#) to track and measure code coverage. You can find all configuration details in [tox.ini](#). To trigger all tests, simply run

```
tox -e py
```

You can also run your tests against any other supported python versions (e.g., `tox -e py38`). If you need more control over which tests are running, or which flags are being passed to `pytest`, you can also invoke `pytest` directly which will run on your current virtual environment. Configuration details can be found in [tox.ini](#).

Linting

This project uses [pre-commit hooks](#) to check and automatically fix any formatting rules. These checks are triggered before creating any git commit. To manually trigger all linting steps (i.e., all pre-commit hooks), run

```
tox -e lint
```

For more information on which hooks will run, have a look inside the `.pre-commit-config.yaml` configuration file. If you want to manually trigger individual hooks, you can invoke the `pre-commit` script directly. If you need even more control over the tools used you could also invoke them directly (e.g., `isort .`). Remember however that this is **not** the recommended approach.

6.3.2 GitHub Actions

We use [GitHub Actions](#) to automatically run all integration approval steps defined with Tox on every push or pull request event. These checks run on all major operating systems and all supported Python versions. Finally, the generated coverage reports are uploaded to [Codecov](#) and [Codacy](#). Check [.github/workflows/ci.yaml](#) for more details.

6.3.3 Tools and software

Here is a quick overview of all CI tools and software in use, some of which have already been discussed in the sections above.

Tool	Cat- e- gory	config files	Details
Tox	Or- ches- tra- tion	tox.ini	We use Tox to reliably run all integration approval steps in reproducible isolated virtual environments.
GitHub Actions	Or- ches- tra- tion	.github/workflows/ci.yaml	Workflow automation for GitHub. We use it to automatically run all integration approval steps defined with Tox on every push or pull request event.
Git	VCS	.gitignore	Projects version control system software of choice.
pytest	Test- ing	tox.ini	Testing framework for python code.
pytest-cov	Cov- erage	tox.ini	Coverage plugin for pytest.
Codecov and Codacy	Cov- erage		Two great services for tracking, monitoring, and alerting on code coverage and code quality.
pre-commit hooks	Lint- ing	.pre-commit-config.yaml	Used to to automatically check and fix any formatting rules on every commit.
mypy	Lint- ing	mypy.ini	A static type checker for Python. We use quite a strict configuration here, which can be tricky at times. Feel free to ask for help from the community by commenting on your issue or pull request.
black	Lint- ing	pyproject.toml	“The uncompromising Python code formatter”. We use black to automatically format Python code in a deterministic manner. We use a maximum line length of 100 characters.
flake8	Lint- ing	setup.cfg	Used to check the style and quality of python code.
isort	Lint- ing	setup.cfg	Used to sort python imports.
Editor-Config	Lint- ing	.editorconfig	This repository uses the .editorconfig standard configuration file, which aims to ensure consistent style across multiple programming environments.

6.4 Project structure

6.4.1 Community health files

GitHub’s community health files allow repository maintainers to set contributing guidelines to help collaborators make meaningful, useful contributions to a project. Read more on this official [reference](#).

- [CODE_OF_CONDUCT.md](#) - A CODE_OF_CONDUCT file defines standards for how to engage in a community. For more information, see “[Adding a code of conduct to your project](#).”
- [CONTRIBUTING.md](#) - A CONTRIBUTING file communicates how people should contribute to your project. For more information, see “[Setting guidelines for repository contributors](#).”

6.4.2 Configuration files

For more context on some of the tools referenced below, refer to the sections on *Continuous Integration*.

- [.github/workflows/ci.yaml](#) - Workflow definition for our CI GitHub Actions pipeline.
- [.pre-commit-config.yaml](#) - List of pre-commit hooks.
- [.editorconfig](#) - EditorConfig standard configuration file.
- [mypy.ini](#) - Configuration for the mypy static type checker.
- [pyproject.toml](#) -
- [build system](#) requirements (probably won’t need to touch these!) and [black](#) configurations.
- [setup.cfg](#) - Here, we specify the package metadata, requirements, as well as configuration details for [flake8](#) and [isort](#).
- [tox.ini](#) - Configuration for [tox](#), [pytest](#), and [coverage](#).

6.5 Release process

You need push access to the project’s repository to make releases. The following release steps are here for reference only.

1. Review the `## Unreleased` changes section in `CHANGES.md` by checking for consistency in format and, if necessary, refactoring related entries into relevant subsections (e.g. *Features*, *Docs*, *Bugfixes*, *Security*, etc). Take a look at previous release notes for guidance and try to keep it consistent.
2. Submit a pull request with these changes only and use the "Cleanup release notes for X.X.X release" template for the pull request title. ridgeplot uses the [SemVer](#) (MAJOR.MINOR.PATCH) versioning standard. You can determine the latest release version by running `git describe --tags --abbrev=0` on the `main` branch. Based on this, you can determine the next release version by incrementing the MAJOR, MINOR, or PATCH. More on this on the next section. For now, just make sure you merge this pull request into the `main` branch before continuing.
3. Use the [bumpversion](#) utility to bump the current version. This utility will automatically bump the current version, and issue a relevant commit and git tag. E.g.,

```
# Bump MAJOR version (e.g., 0.4.2 -> 1.0.0)
bumpversion major
```

(continues on next page)

(continued from previous page)

```
# Bump MINOR version (e.g., 0.4.2 -> 0.5.0)
bumpversion minor

# Bump PATCH version (e.g., 0.4.2 -> 0.4.3)
bumpversion patch
```

You can always perform a dry-run to see what will happen under the hood.

```
bumpversion --dry-run --verbose [--allow-dirty] [major,minor,patch]
```

4. Push your changes along with all tag references:

```
git push && git push --tags
```

5. At this point a couple of GitHub Actions workflows will be triggered:

1. `.github/workflows/ci.yaml`: Runs all CI checks with Tox against the new changes pushed to main.
2. `.github/workflows/release.yaml`: Issues a new GitHub release triggered by the new git tag pushed in the previous step.
3. `.github/workflows/publish-pypi.yaml`: Builds, packages, and uploads the source and wheel package to PyPI (and test PyPI). This is triggered by the new GitHub release created in the previous step.

6. **Trust but verify!**

1. Verify that all three workflows passed successfully: <https://github.com/tpvasconcelos/ridgeplot/actions>
2. Verify that the new git tag is present in the remote repository: <https://github.com/tpvasconcelos/ridgeplot/tags>
3. Verify that the new release is present in the remote repository and that the release notes were correctly parsed: <https://github.com/tpvasconcelos/ridgeplot/releases>
4. Verify that the new package is available in PyPI: <https://pypi.org/project/ridgeplot/>
5. Verify that the docs were updated and published to <https://ridgeplot.readthedocs.io/en/stable/>

6.6 Code of Conduct

Please remember to read and follow our [Code of Conduct](#).

PYTHON MODULE INDEX

r

- `ridgeplot._colors`, [13](#)
- `ridgeplot._figure_factory`, [12](#)
- `ridgeplot._kde`, [13](#)
- `ridgeplot._types`, [11](#)
- `ridgeplot._utils`, [13](#)
- `ridgeplot.datasets`, [11](#)

Symbols

`__getitem__()` (ridgeplot._types.SimpleSequence method), 11

C

`ColorScaleType` (in module ridgeplot._types), 11

D

`draw_base()` (ridgeplot.figure_factory.RidgePlotFigureFactory module, 12 method), 12

`draw_density_trace()` (ridgeplot.figure_factory.RidgePlotFigureFactory method), 12

E

`evaluate_density()` (in module ridgeplot._kde), 13

G

`get_all_colorscale_names()` (in module ridgeplot), 11

`get_all_colorscale_names()` (in module ridgeplot._colors), 13

`get_color()` (in module ridgeplot._colors), 13

`get_colorscale()` (in module ridgeplot._colors), 13

`get_xy_extrema()` (in module ridgeplot._utils), 13

L

`LazyMapping` (class in ridgeplot._utils), 14

`load_proably()` (in module ridgeplot.datasets), 11

M

module

ridgeplot._colors, 13

ridgeplot._figure_factory, 12

ridgeplot._kde, 13

ridgeplot._types, 11

ridgeplot._utils, 13

ridgeplot.datasets, 11

N

`NestedNumericSequence` (in module ridgeplot._types), 11

`NestedNumericSequenceT` (in module ridgeplot._types), 11

`Numeric` (in module ridgeplot._types), 11

`NumericT` (in module ridgeplot._types), 11

R

`ridgeplot()` (in module ridgeplot), 9

ridgeplot._colors

module, 13

ridgeplot._figure_factory

module, 12

ridgeplot._kde

module, 13

ridgeplot._types

module, 11

ridgeplot._utils

module, 13

ridgeplot.datasets

module, 11

`RidgePlotFigureFactory` (class in ridgeplot._figure_factory), 12

S

`SimpleSequence` (protocol in ridgeplot._types), 11

U

`update_layout()` (ridgeplot._figure_factory.RidgePlotFigureFactory method), 12

V

`validate_colorscale()` (in module ridgeplot._colors), 13