
PSA Prizes

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ABOUT

PSA-prizes is a Python package for simple prize analyses of PSA-graded trading cards.

PSA (Professional Sports Authenticator) grades the authenticity and condition of sport cards, such as baseball and basketball cards, and cards from TCGs (trading card games) like Magic, Yu-Gi-Oh! and Pokémon. The **grades** provide credible categories for these sensible collectibles in which prizes can be compared.

1.1 Summary

1.1.1 Features

Web Scraping

- Scrape the comprehensive data recorded by PSA on public sales of certified cards from the [Auction Prizes](#) register on their website

Basic Analysis

- Compute the compound annual growth rate (CAGR) and numbers on the grade distribution, record unusual grade types and plot the prizes over time

1.1.2 Installation

Clone the package to a local directory:

```
$ git clone https://github.com/tostenzel/psa-prizes
```

Install the dependency manager **Poetry**:

```
$ curl -sSL https://raw.githubusercontent.com/python-poetry/poetry/master/get-poetry.py  
→ py | python
```

Change directory to `/psa-prizes/` and install dependencies:

```
$ cd psa_prizes  
$ poetry install
```

1.1.3 Example

Specify the cards and grades of interest in `/input/input.csv` ([Click for an example](#)):

- Paste the respective [item link](#) to the first column
- Write the respective grades to the second column as a list in Python syntax

If you write in the file through a GUI-based program, make sure to keep `;` as the only column delimiter.

Run *PSA-prizes*:

```
$ poetry run psa-prizes
```

Data, information and plots are saved to `/output/`. Additionally, the information is printed to the terminal and the plot is pictured for each card-grade pair. An example output is shown below.

```
- The compound annual growth rate from 2016 to 2020 is 61.13%.
- The number of cards with grade 8.0 is 119 of 562 cards. That is 21.17%.
- Over all grades, 6 of 562 cards do not receive standard grades. These grades are in
  ↳{'Authentic', 'nan'}
```

1.2 Modules

- `psa_prizes.scrape`
- `psa_prizes.analyze`

1.2.1 `psa_prizes.scrape`

1.2.2 `psa_prizes.analyze`

Analysis tools.

```
psa_prizes.analyze.analyze()
```

Return info messages as dict, plot prize timeline and save both.

Notes

For some cards, the grade data is of type *str* instead of *int* or *float*. `pd.DataFrames` assign the data-types column-wise by using the most compatible type. For example, the grade “Authentic” for only one card causes pandas to transform the whole column with grades in `{1.0, 1.5, ... 10.0}` to be stored as *str*. Therefore, all grades are converted to *str* for a unified treatment. These strings are written like floats with one decimal place.

Return type `None`

1.3 License

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