croston

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CHAPTER 1

croston

croston model for intermittent time series

croston.croston.**fit_croston**(*input_endog*, *forecast_length*, *croston_variant='original'*)

Parameters

- **input_endog** – numpy array of intermittent demand time series
- **forecast_length** – forecast horizon
- **croston_variant** – croston model type

Returns dictionary of model parameters, in-sample forecast, and out-of-sample forecast

croston.croston.**_croston**(*input_series*, *input_series_length*, *croston_variant*, *w*, *h*, *epsilon*)

croston.croston.**_croston_opt**(*input_series*, *input_series_length*, *croston_variant*, *epsilon*, *w=None*, *nop=1*)

croston.croston.**_croston_cost**(*p0*, *input_series*, *input_series_length*, *croston_variant*, *epsilon*)

CHAPTER 2

example

```
    import numpy as np
    import random
    from croston import croston
    import matplotlib.pyplot as plt


    a = np.zeros(50)
    val = np.array(random.sample(range(100,200), 10))
    idxs = random.sample(range(50), 10)

    ts = np.insert(a, idxs, val)


    fit_pred = croston.fit_croston(ts, 10, 'original') # croston's method

    #fit_pred = croston.fit_croston(ts, 10, 'sba') # Syntetos-Boylan approximation
    #fit_pred = croston.fit_croston(ts, 10, 'sbj') # Shale-Boylan-Johnston


    yhat = np.concatenate([fit_pred['croston_fittedvalues'], fit_pred['croston_
↪forecast']])

    plt.plot(ts)
    plt.plot(yhat)
```

CHAPTER 3

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