**Savitzky Golay Filtering**

import numpy as np

from scipy.signal import savgol\_filter

np.set\_printoptions(precision=2) # For compact display.

x = np.array([2, 2, 5, 2, 1, 0, 1, 4, 9])

Filter with a window length of 5 and a degree 2 polynomial. Use the defaults for all other parameters.

savgol\_filter(x, 5, 2)

array([1.66, 3.17, 3.54, 2.86, 0.66, 0.17, 1. , 4. , 9. ])

savgol\_filter(x, 5, 2, mode='nearest')

array([1.74, 3.03, 3.54, 2.86, 0.66, 0.17, 1. , 4.6 , 7.97])

**XGBOOST Classification**

import xgboost as xgb

# Show all messages, including ones pertaining to debugging

xgb.set\_config(verbosity=2)

# Get current value of global configuration

# This is a dict containing all parameters in the global configuration,

# including 'verbosity'

config = xgb.get\_config()

assert config['verbosity'] == 2

# Example of using the context manager xgb.config\_context().

# The context manager will restore the previous value of the global

# configuration upon exiting.

with xgb.config\_context(verbosity=0):

# Suppress warning caused by model generated with XGBoost version < 1.0.0

bst = xgb.Booster(model\_file='./old\_model.bin')

assert xgb.get\_config()['verbosity'] == 2 # old value restored

Nested configuration context is also supported: