# Business Analytics With XLKitLearn: An Excel Frontend For scikit-learn

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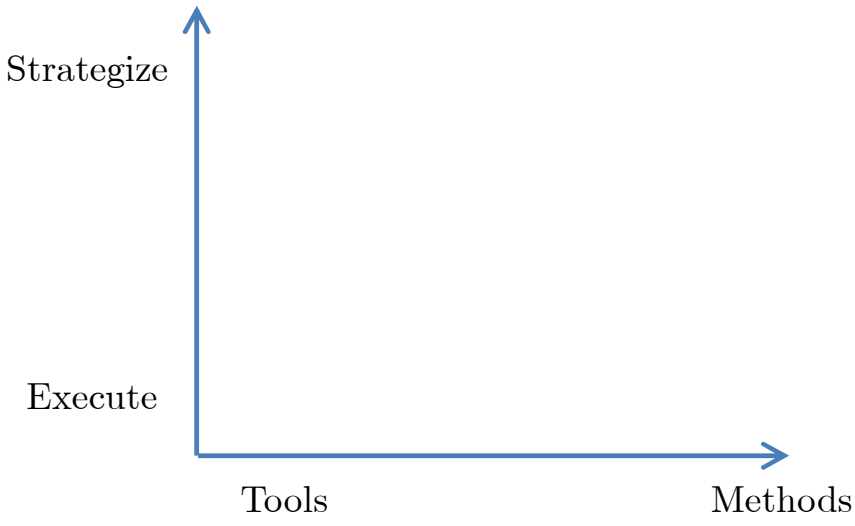
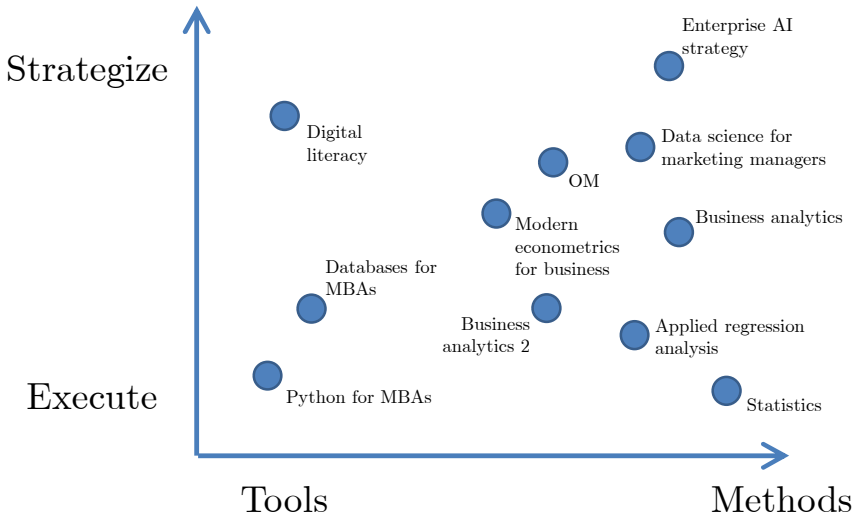
## Analytics for MBAs






2

# Analytics for MBAs



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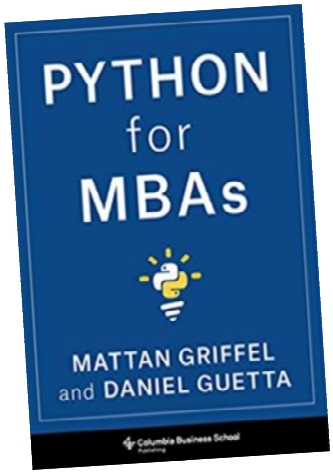
# Analytics for MBAs




pythonformbas.com



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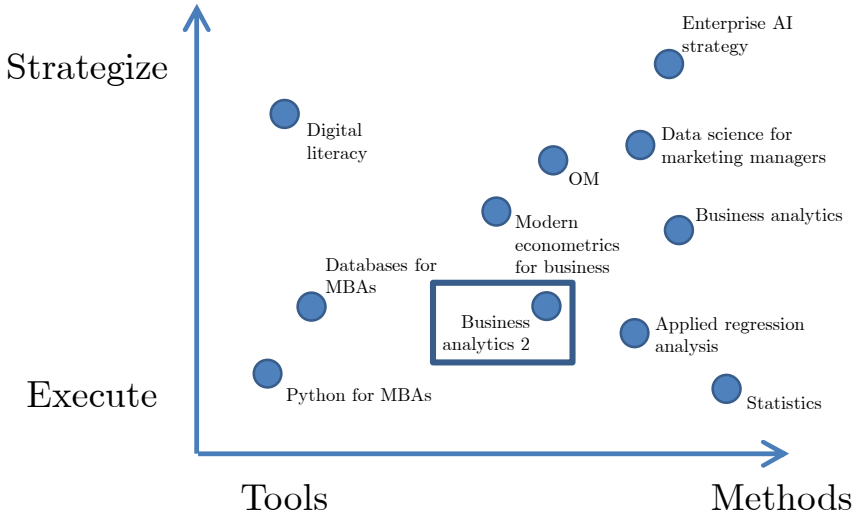
# Analytics for MBAs



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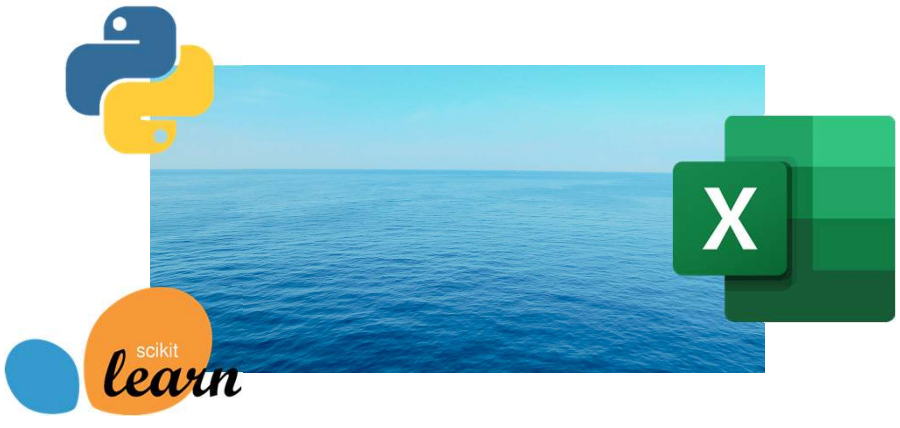
# Business Analytics 2



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## Business Analytics 2

Potential options

- Use one of many off-the-shelf software products?
  - Black boxes
- Use R/Python and give students code to copy/paste?
  - Poor experience
- Cover everything theoretically without hands-on work?
  - Can be difficult to absorb; dry



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## Our Solution: XLKitLearn

danguetta.github.io/xlkitlearn



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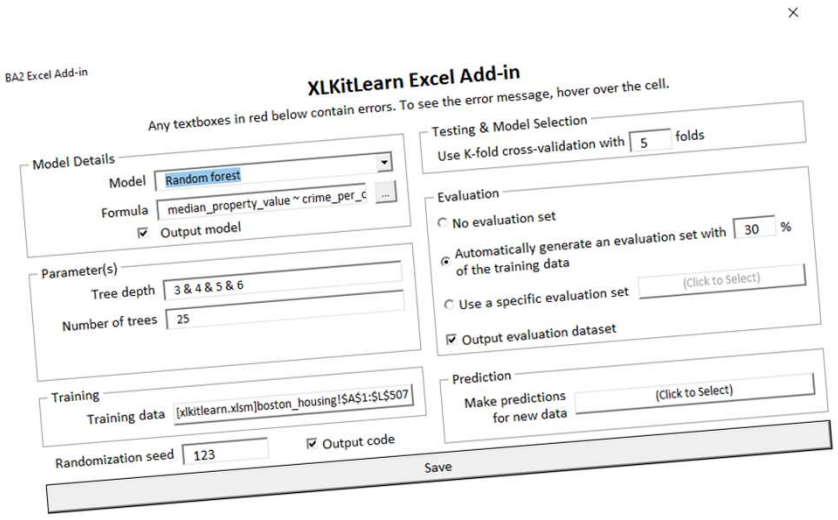
# Predictive analytics



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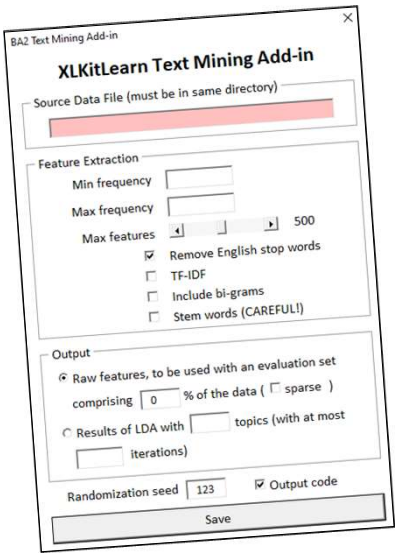
# Text analytics



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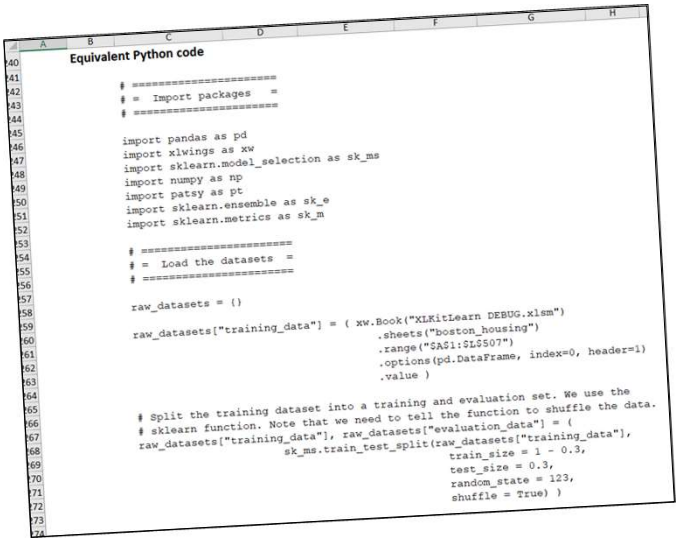
# Each run generates Python



Equivalent Python code

```
# ======================
# =  Import packages   =
# ======================

import pandas as pd
import xlwings as xw
import sklearn.model_selection as sk_ms
import numpy as np
import patsy as pt
import sklearn.ensemble as sk_e
import sklearn.metrics as sk_m

# ======================
# =  Load the datasets  =
# ======================

raw_datasets = {}

raw_datasets["training_data"] = ( xw.Book("XLKitLearn DEBUG.xlsm")
                                    .sheets("boston_housing")
                                    .range("$A$1:$L$507")
                                    .options(pd.DataFrame, index=0, header=1)
                                    .value )


# Split the training dataset into a training and evaluation set. We use the
# sklearn function. Note that we need to tell the function to shuffle the data.
raw_datasets["training_data"], raw_datasets["evaluation_data"] = (
                        sk_ms.train_test_split(raw_datasets["training_data"],
                                               train_size = 1 - 0.3,
                                               test_size = 0.3,
                                               random_state = 123,
                                               shuffle = True) )
```