output

June 28, 2023

1 Data Science Project - Predicting Insurance Via Linear Regression

1.1 ## Introduction

From a data set that compiles information on peoples' medical history we implement a linear regression model that attempts to predict the insurance costs of patients.

Data Set Description (source)

- `age`: age of primary beneficiary
- `sex`: insurance contractor gender, female, male
- `bmi`: Body mass index, providing an understanding of body, weights that are relatively high or low relative to height,
- `objective` index of body weight (kg / m ^ 2) using the ratio of height to weight, ideally 18.5 to 24.9
- `children`: Number of children covered by health insurance / Number of dependents
- `smoker`: Smoking
- `region`: the beneficiary's residential area in the US, northeast, southeast, southwest, northwest.
- `charges`: Individual medical costs billed by health insurance

```
---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
/home/justin/Documents/code/github_projects/working_projects/project_13/output.
 ↪ipynb Cell 2 in 1
      <a href='vscode-notebook-cell:/home/justin/Documents/code/github_projects
 ↪working_projects/project_13/output.ipynb#W1sZmlsZQ%3D%3D?line=6'>7</a> else:
      <a href='vscode-notebook-cell:/home/justin/Documents/code/github_projects
 ↪working_projects/project_13/output.ipynb#W1sZmlsZQ%3D%3D?line=7'>8</a>     ␣
 ↪get_ipython().run_line_magic('autoreload', '2')
---> <a href='vscode-notebook-cell:/home/justin/Documents/code/github_projects/
 ↪working_projects/project_13/output.ipynb#W1sZmlsZQ%3D%3D?line=9'>10</a> from␣
 ↪main import main
     <a href='vscode-notebook-cell:/home/justin/Documents/code/github_projects/
 ↪working_projects/project_13/output.ipynb#W1sZmlsZQ%3D%3D?line=11'>12</a> main()

File ~/Documents/code/github_projects/working_projects/project_13/main.py:10
      8 from src import statistical_tests as st
      9 from src import feature_selection as fs
```

```
---> 10 from src import paths
     12 # Importing the hyperparameters script by importing the module that␣
 ↪starts with
     13 # the expression 'parameters'.
     14 extract_name = re.findall('./(\w+)', glob.glob('src/para*.py')[0])[0]

File ~/Documents/code/github_projects/working_projects/project_13/src/paths.py:
      5 extract_name = re.findall('./(\w+)', glob.glob('src/para*.py')[0])[0]
      6 p = importlib.import_module(f'src.{extract_name}')
----> 9 class DataPath:
     10     SOURCE_DATA_PATH = f"../{p.HP.main_folder_name}/data/{p.HP.
 ↪data_file_name}"
     11     PDF_PATH = f"../{p.HP.data_path}/stored_pdf"

File ~/Documents/code/github_projects/working_projects/project_13/src/paths.py:
 ↪11, in DataPath()
      9 class DataPath:
     10     SOURCE_DATA_PATH = f"../{p.HP.main_folder_name}/data/{p.HP.
 ↪data_file_name}"
---> 11     PDF_PATH = f"../{p.HP.data_path}/stored_pdf"
     12     NOTEBOOK_PATH = f"../{p.HP.data_path}/output.ipynb"

AttributeError: type object 'HP' has no attribute 'data_path'
```