



adaptTo()

EUROPE'S LEADING AEM DEVELOPER CONFERENCE

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AEM Data Science: AEMpy

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Prerequisites

1. Install Docker
2. `docker pull odyssee/adaptto_aempy`
3. `docker run -p 8888:8888 -p 4502:4502 -it --rm odyssee/adaptto_aempy bash`
4. `sh ./start.sh`

Definition

What is a Data Scientist?

- Cool word for “Statistician” or “Analyst”
- Answers questions with facts and numbers
- On free time:
 - DS does AI/ML
 - Compete on Kaggle.com (Google)

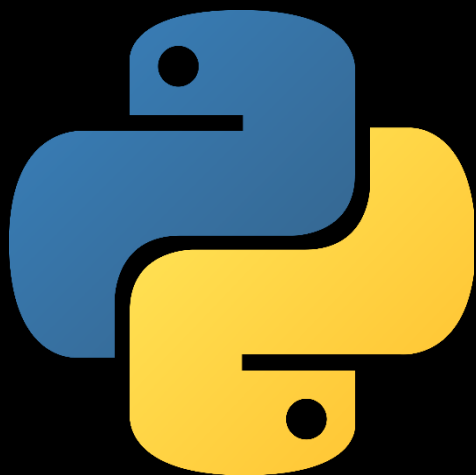
The Workshop (second part)

1. Data Science in AEM using **Python** with **AEMpy**
2. Building Data Science Reports using AEM data and **Jupyter Notebook**

Why Python?

- Simple, Fast
- Strong Scientific Libraries:
 - Scikit Learn, Numpy, Pandas
- Machine Learning Libraries:
 - Pytorch (Facebook), TensorFlow (Google), MXNet(Apache)
- Graphics and Visualization tools

What is AEMpy?



Python



Assets
Logs
Pages
Repository
...



AEM

What is Jupyter?

Jupyter covid_19_dashboard Last Checkpoint: Last Friday at 11:45 PM (unsaved changes) ✓

Jupyter batchdemo Last Checkpoint: a minute ago (autosaved)

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In [13]:

```
from IPython.core.interactiveshell import InteractiveShell
InteractiveShell.ast_node_interactivity = "all"
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InteractiveShell.ast_node_interactivity = "all"
```

In [2]:

```
import pandas as pd
import folium
from matplotlib.colors import Normalize, rgb2hex
import matplotlib.cm as cm
```

In [4]:

```
data = pd.read_csv('http://earthquake.usgs.gov/earthquakes/feed/v1.0/summary/2.5+earthquake.txt')
norm = Normalize(data['mag'].min(), data['mag'].max())
```

In [14]:

```
map = folium.Map(location=[48, -102], zoom_start=3)
for eq in data.iterrows():
    color = rgb2hex(cm.OrRd(norm(float(eq[1]['mag']))))
    map.circle_marker([eq[1]['latitude'], eq[1]['longitude']],
                     popup=eq[1]['place'],
                     radius=20000*float(eq[1]['mag']),
                     line_color=color,
                     fill_color=color)
map.create_map(path='results/earthquake.html')
```

In [15]:

```
confirm
```

In [16]:

```
recover
```

In [17]:

```
death
```

In [18]:

```
count
```

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localhost:8889/notebooks/r_notebook_example

Jupyter r_notebook_example

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In [5]:

```
library(plotly)
set.seed(100)
d <- diamonds[sample(nrow(d), 1000), ]
plot_ly(d, type = 'scatter',
        x = ~carat, y = ~price,
        color = ~carat, size = ~carat,
        text = ~paste("Clarity:", clarity))
```



Let's Start!

What's Next?

- Fork and contribute:
 - github.com/houseofai/aempy