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Terminology (from Google Machine Learning)

Feature:

an input variable

(e.g. consumer income, present GDP, etc)

$\{x_1, x_2, \dots, x_n\} = \mathbf{x}$

Label:

the thing we're predicting

(e.g. the future price of a stock)

y

Labeled example

{features, label}: (x, y)

Used to train the model

housingMedianAge (feature)	totalRooms (feature)	totalBedrooms (feature)	medianHouseValue (label)
15	5612	1283	66900
19	7650	1901	80100
17	720	174	85700
14	1501	337	73400
20	1454	326	65500

3 unlabeled examples

Model:

Maps an example to a *predicted label*: y'

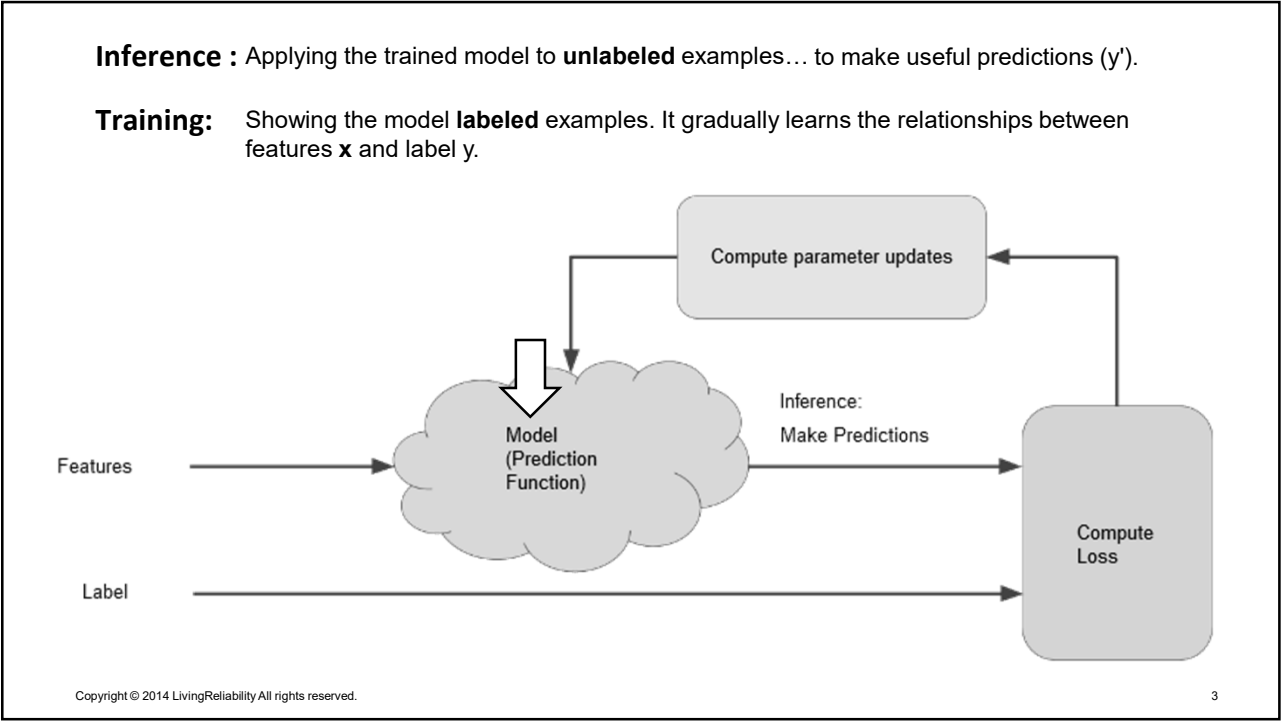
Defined by (learned) parameters

housingMedianAge (feature)	totalRooms (feature)	totalBedrooms (feature)
42	1686	361
34	1226	180
33	1077	271

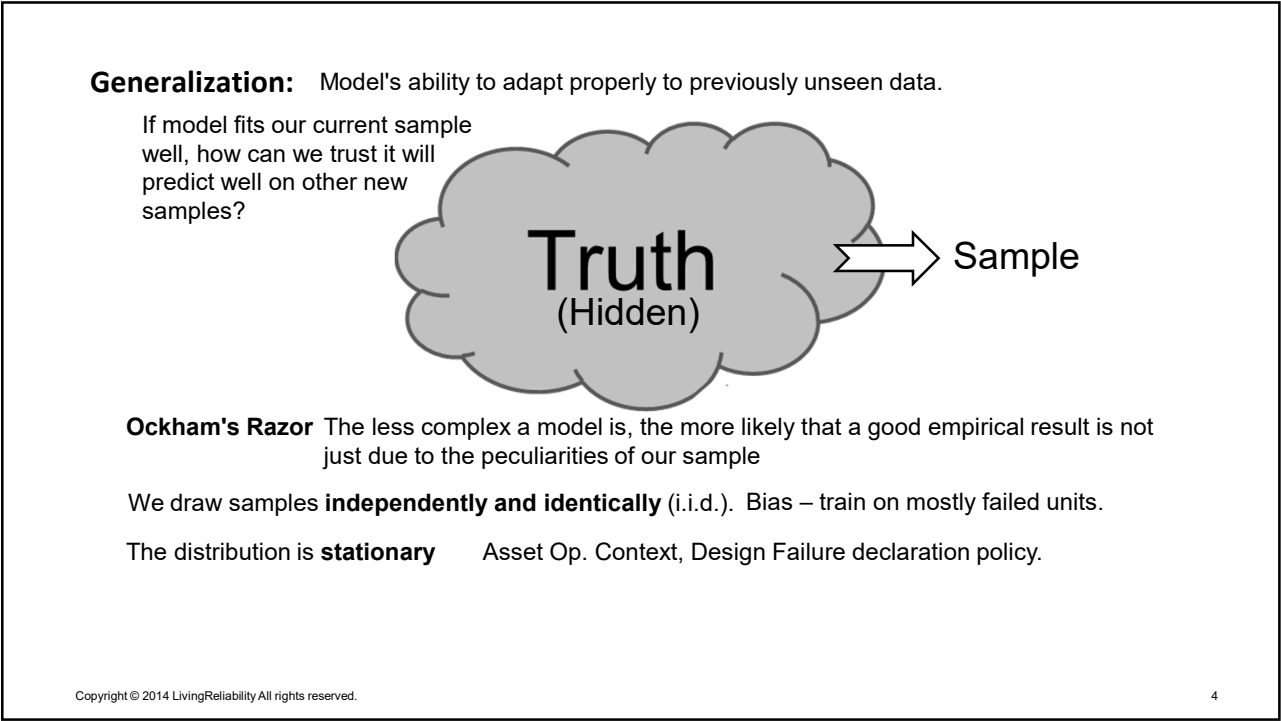
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Empirical cumulative distribution function (ECDF)

Python example

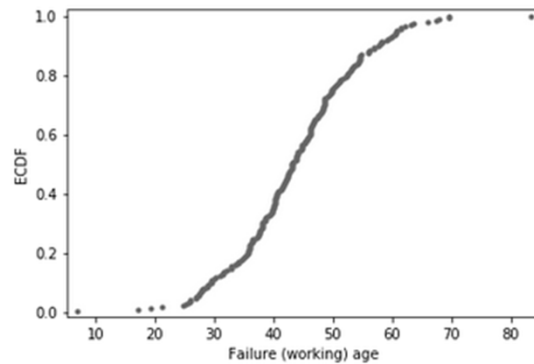
```
import numpy as np ←
import pandas as pd
import matplotlib.pyplot as plt
Events = pd.read_csv(Trans.csv)
```

```
x = np.sort(df_swing['Failure (working) age'])
y = np.arange(1, len(x)+1) / len(x)
```

```
_ = plt.plot(x, y, marker='.', linestyle='none')
_ = plt.xlabel('Failure (working) age')
_ = plt.ylabel('ECDF')
```

```
plt.margins(0.02) # Keeps data off plot edges
plt.show
```

<function matplotlib.pyplot.show(*args, **kw)>



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