

DATA SCIENCE...

Data Scientist....

Desmistificando o trabalho mais sexy do século 21

1

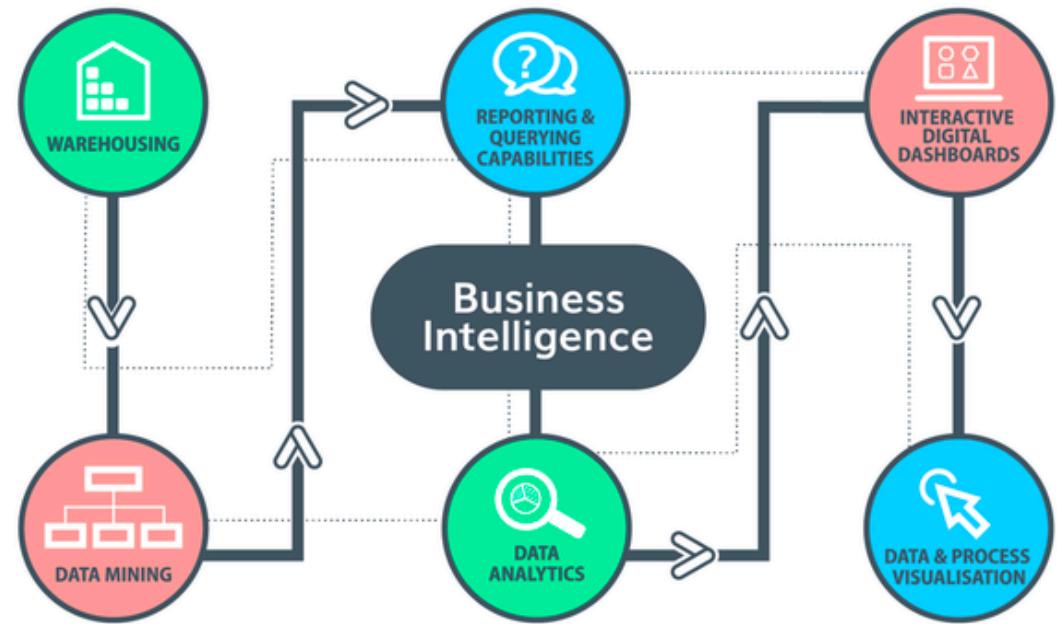
AUDIENCE INTROSPECTION



Part 1 - <http://bit.ly/2OcCYqu>

Part 2 - <http://bit.ly/353yOXX>

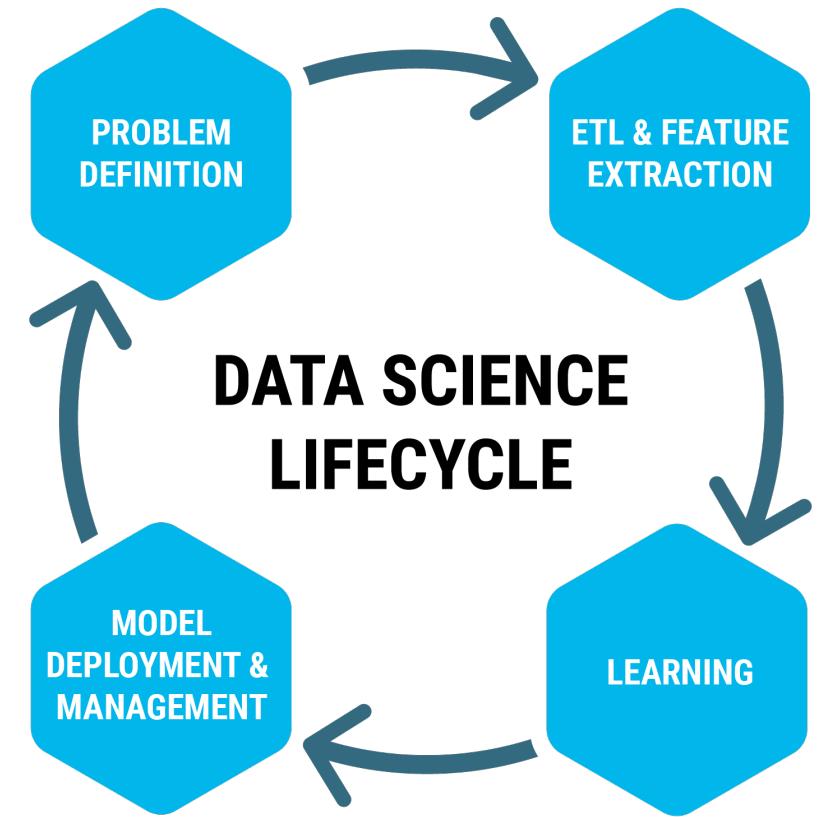
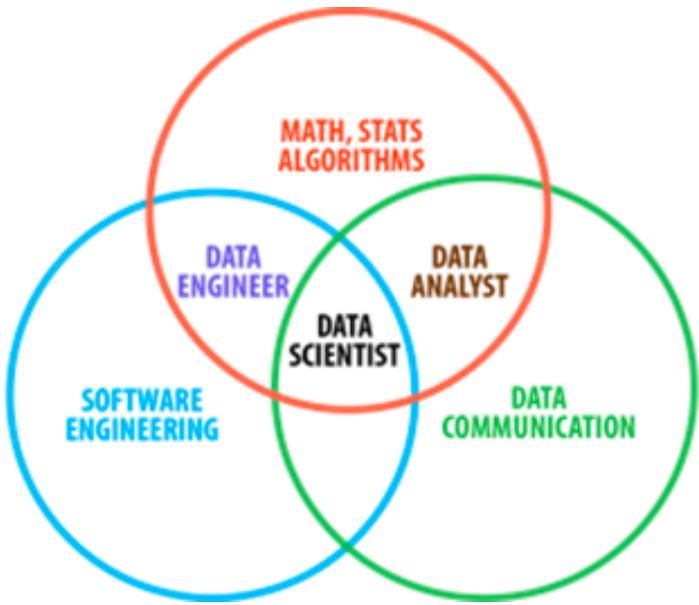




Business Intelligence

Existem Data Scientists/Cientistas de Dados ?

4





Prerequisite: Python for Data analysis

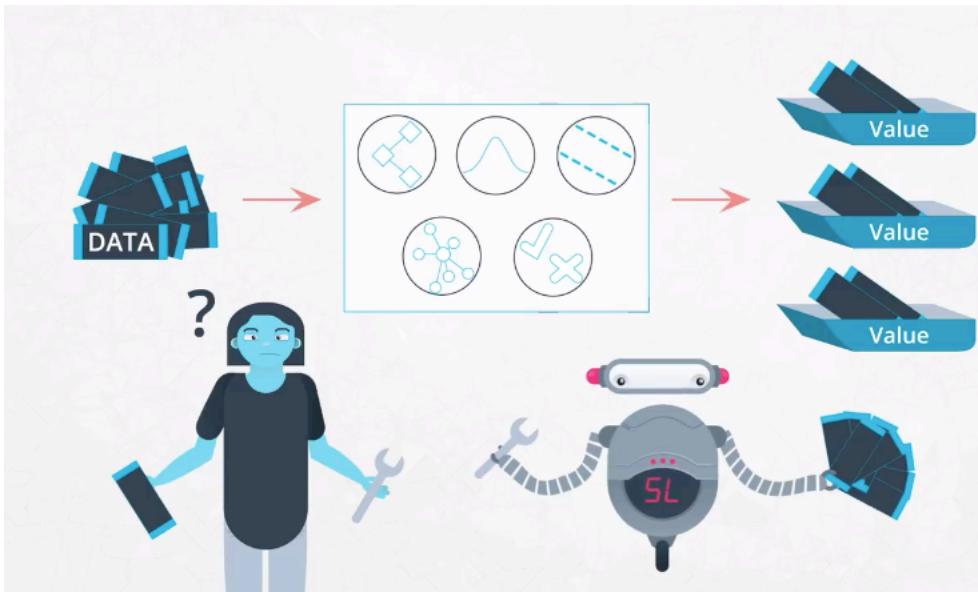
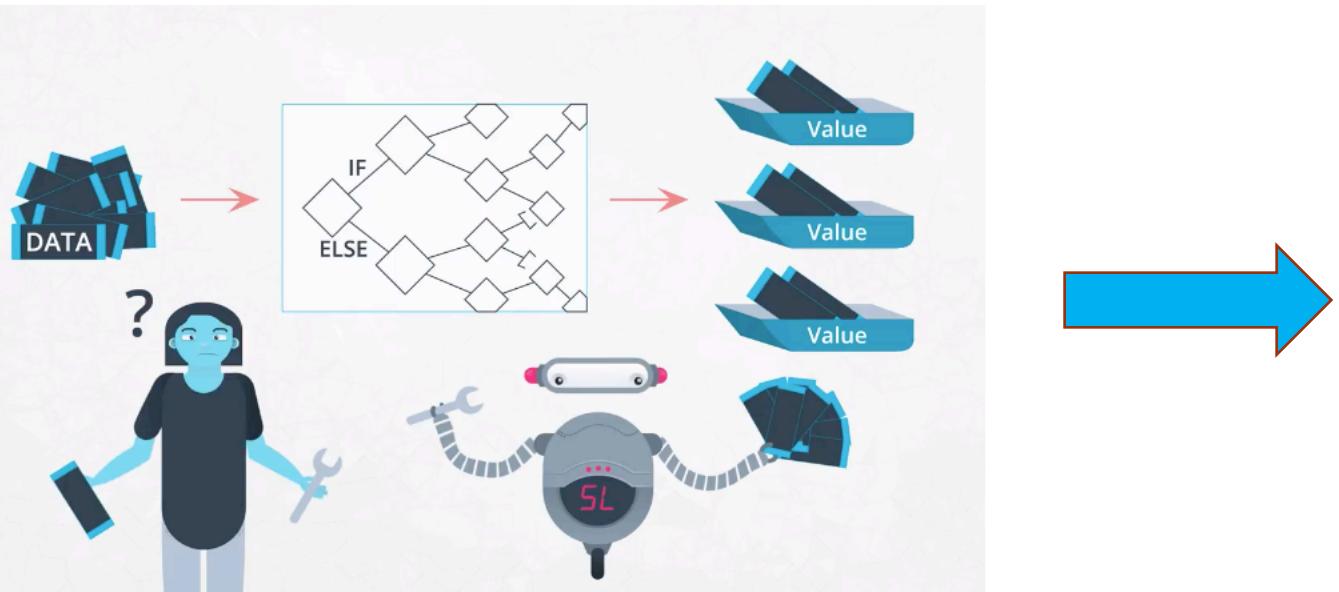
Prerequisite: SQL

Prerequisite: Data visualization

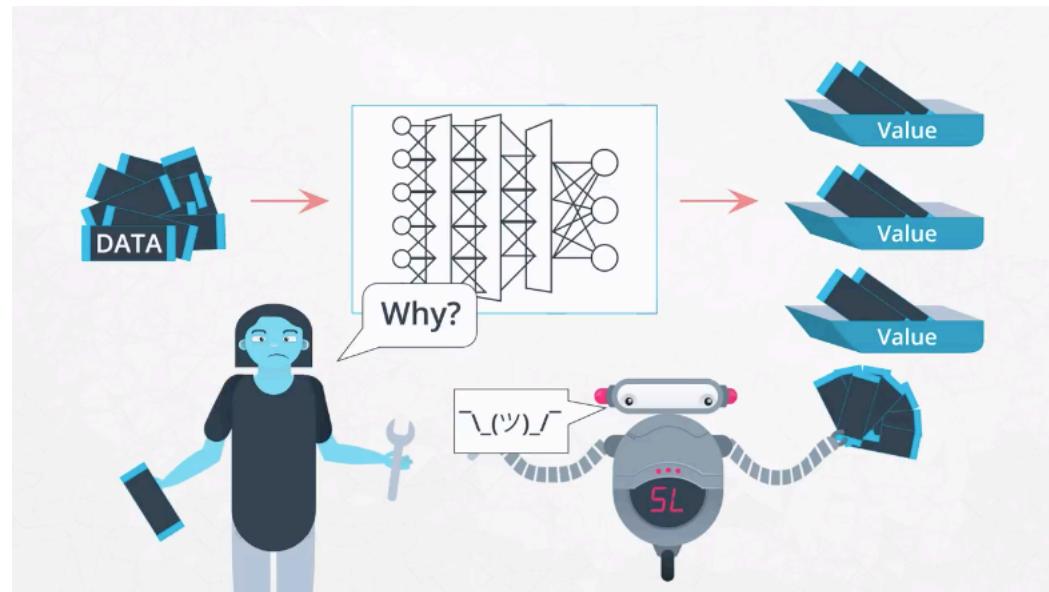
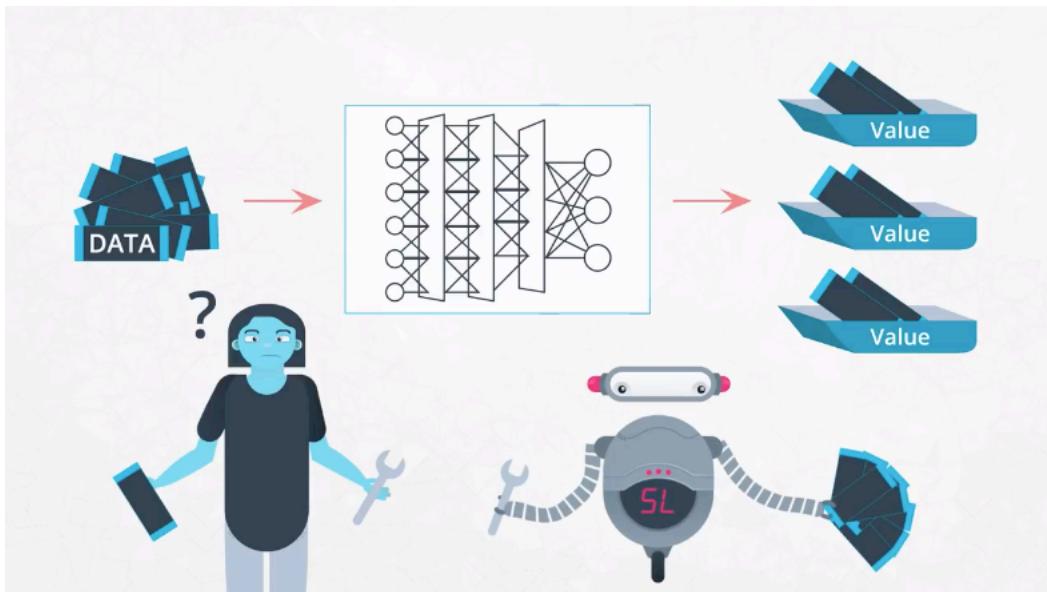
Prerequisite: Command line Essentials

Prerequisite: Git & GitHub/Bitbucket

Prerequisite: Linear Algebra



Computer Science perspective – Raw Data, Data Patterns, Probability Distributions



Computer Science perspective – Prediction Models, Machine Learning,
Complex Implementations – Medical Diagnostic

Supervised Learning

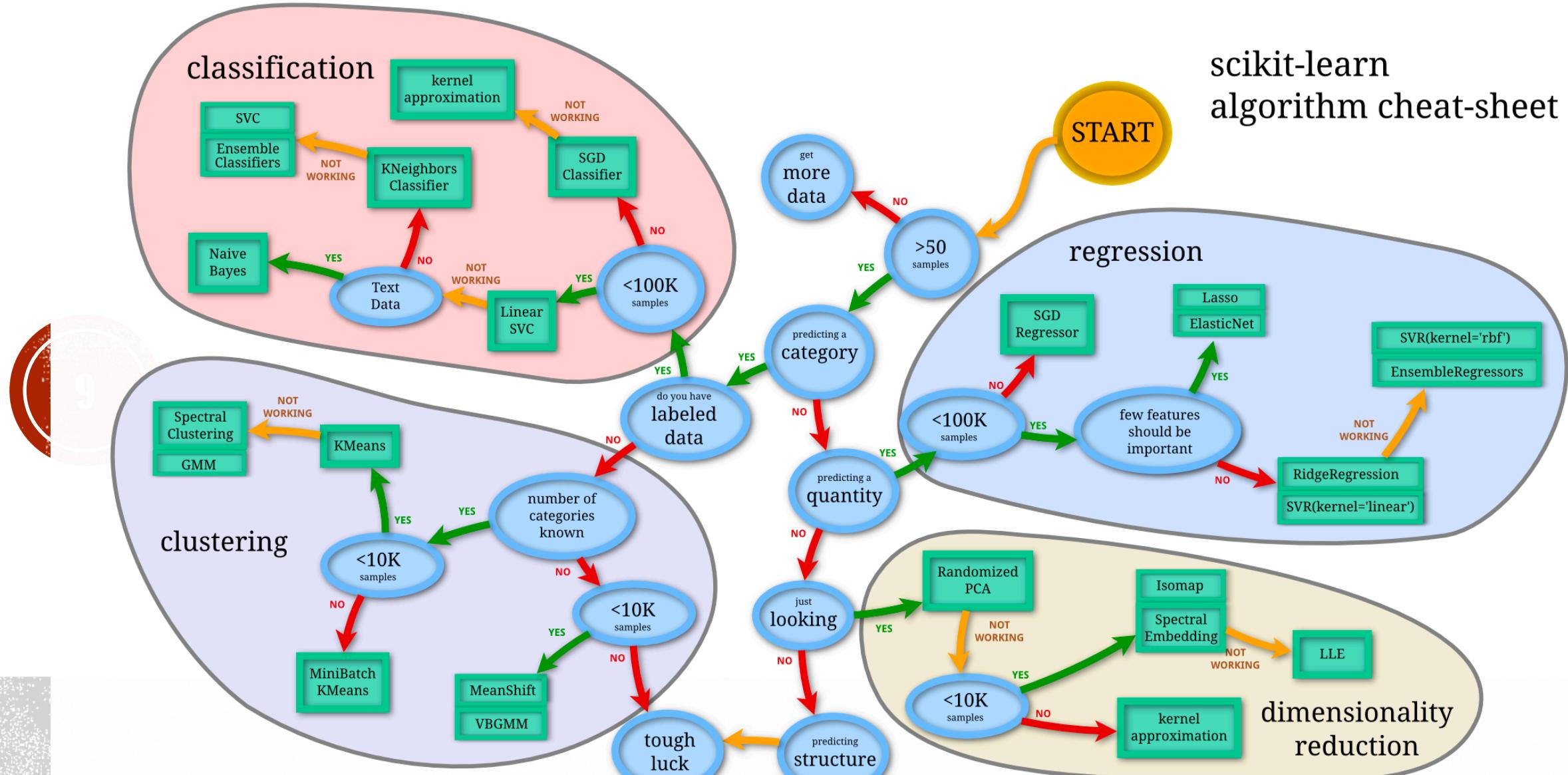
8

Unsupervised Learning

Reinforcement Learning

Types of Machine Learning

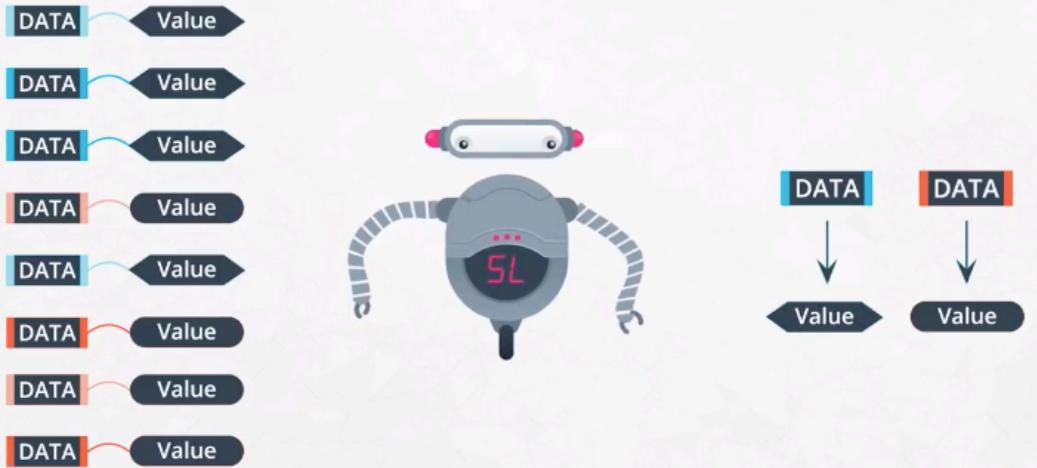
scikit-learn algorithm cheat-sheet



Back

scikit
learn

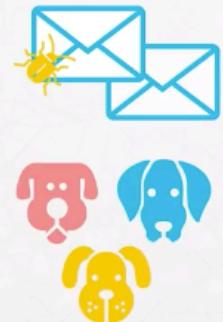
Supervised Learning



Supervised Learning

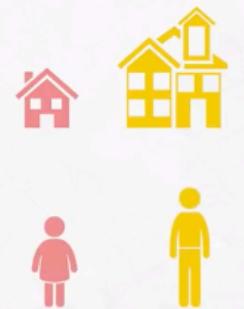
Classification

Categorical Outcomes



Regression

Numeric Outcomes



Supervised Learning – Classifying emails, or Races of animals, and predicting House Prices, Loans Outcomes or Physical characteristics

11

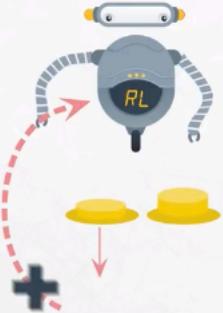


Unsupervised Learning – Grouping Items, Music Recommendation

CINEPLEX
CINEPLEX

CINEPLEX
CINEPLEX

Reinforcement Learning



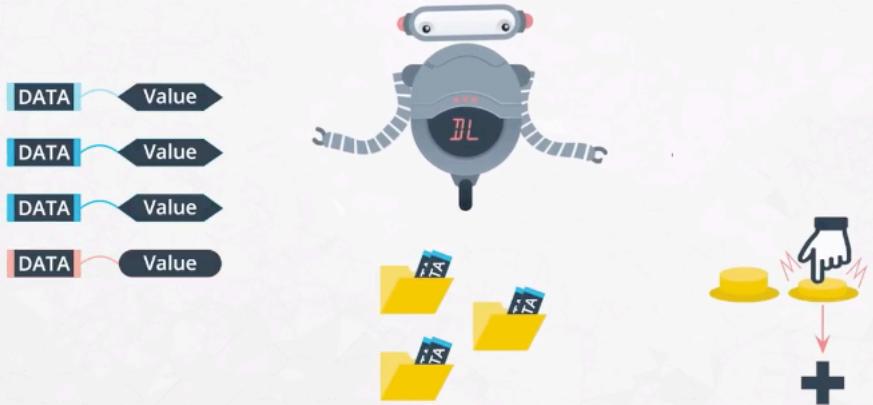
Reinforcement Learning



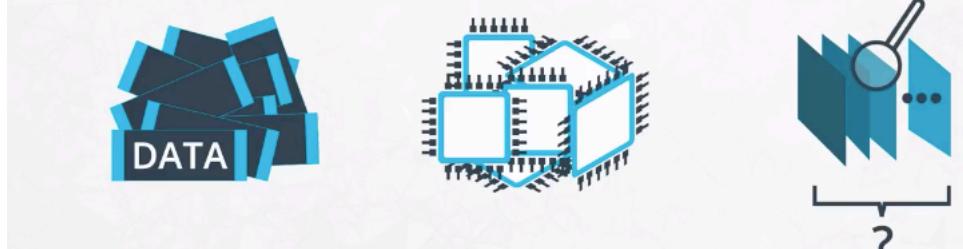
Reinforcement Learning – Learn on rewards for actions, self-driving vehicles, game agents



Deep Learning



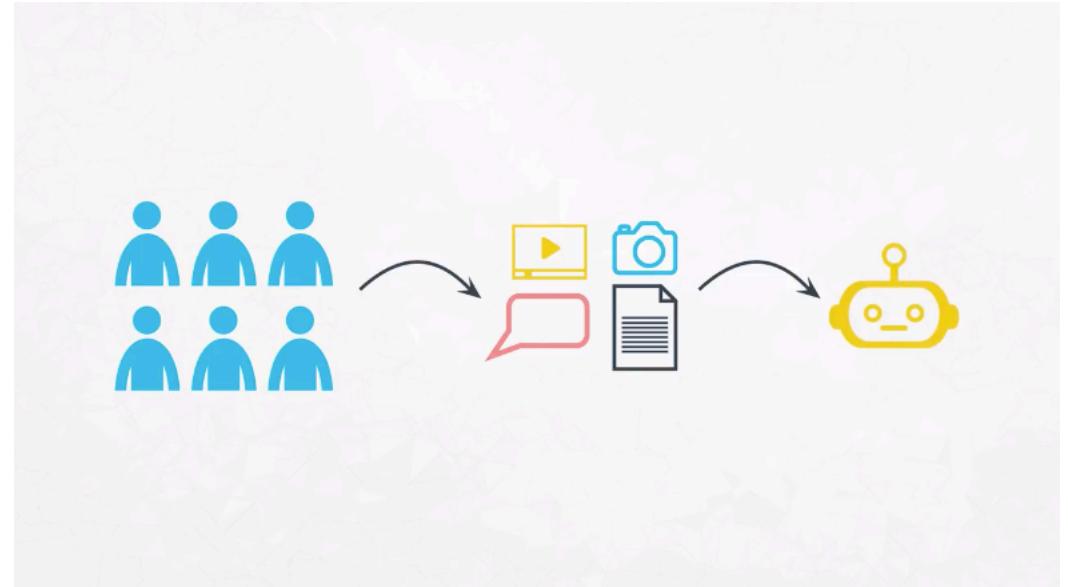
Barriers to Deep Learning



Deep Learning – Better ability to predictions, more accuracy

Barriers to Deep Learning – Amount of data, computing power, understanding of decisions and complexity

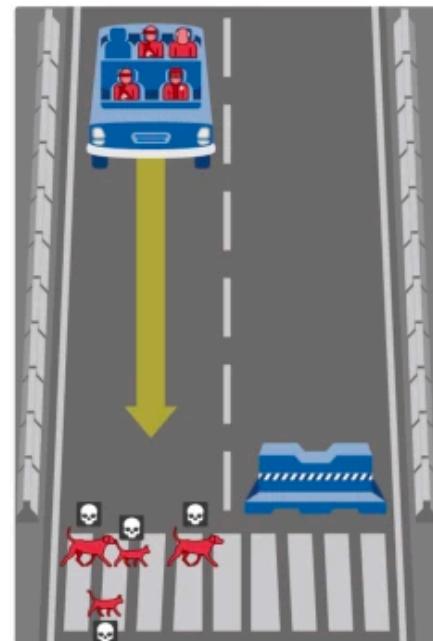
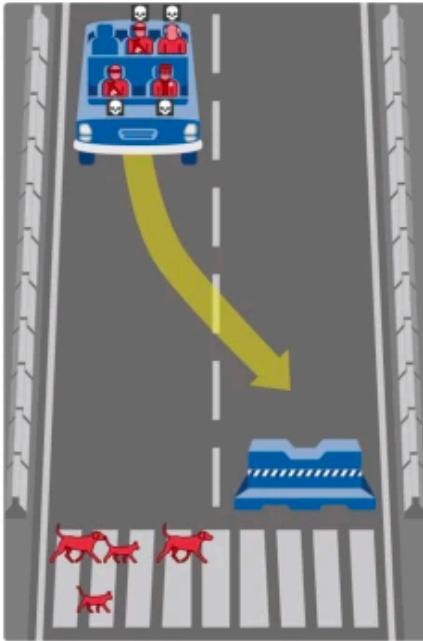
Ex: Google DeepMind to train Go-playing AI AlphaGo – 1,202 CPUs and 176 GPUs



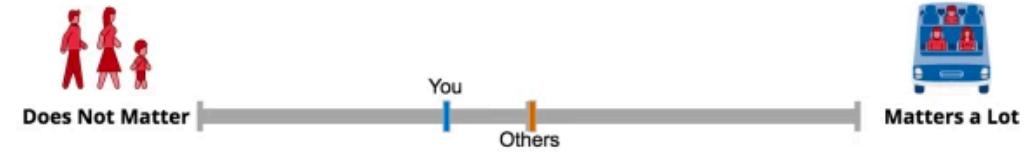
Ethics & Constraints in Machine Learning – Errors and biases

Ex: Best candidate for vacancy, image recognition.

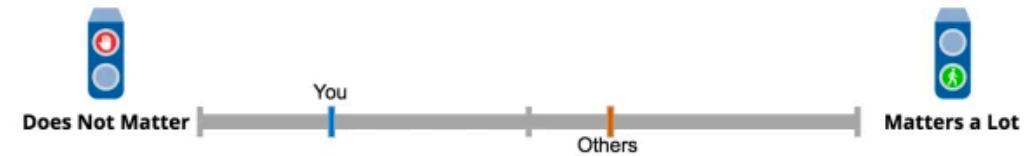
What should the self-driving car do?



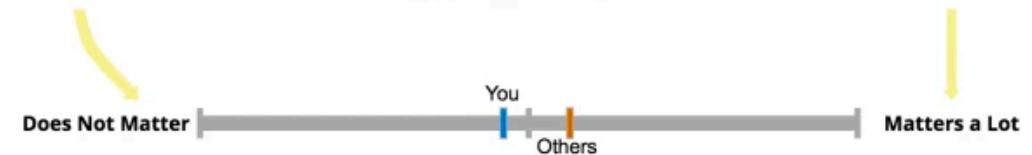
Protecting Passengers



Upholding the Law



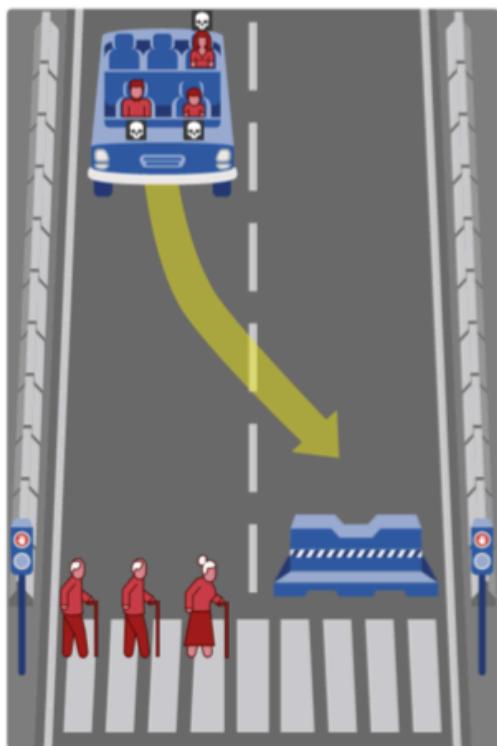
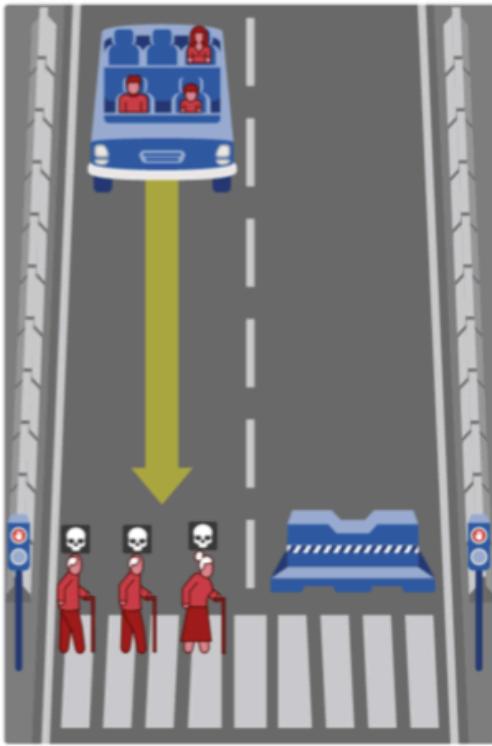
Avoiding Intervention



Ethics in Machine Learning

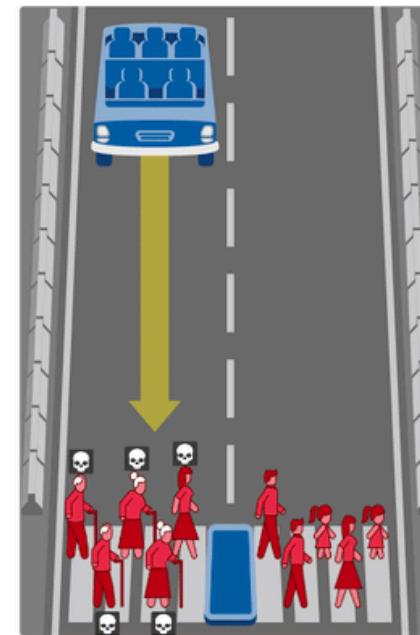
1. Old folks crash or hit puppies
2. Who's responsible ?

What should the self-driving car do?

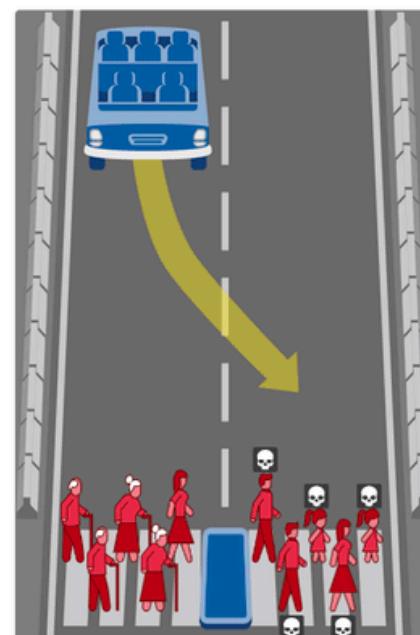


What should the self-driving car do?

1 / 13



Show Description



Show Description

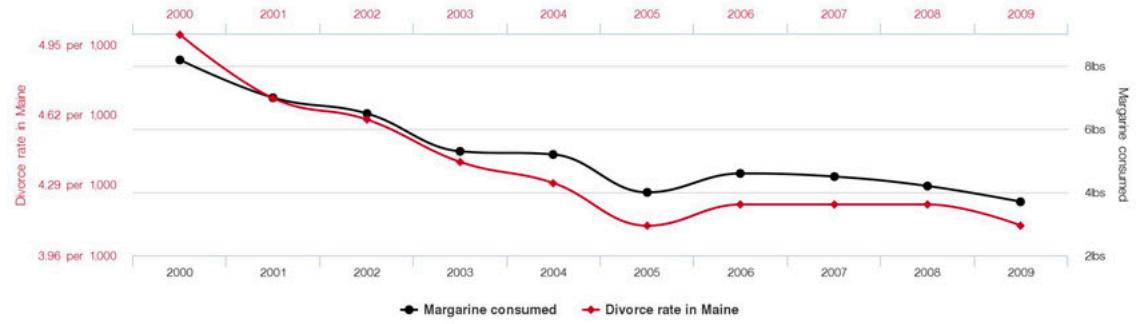
Ethics in Machine Learning

1. Old people or young people
2. Who's responsible?

Divorce rate in Maine

correlates with

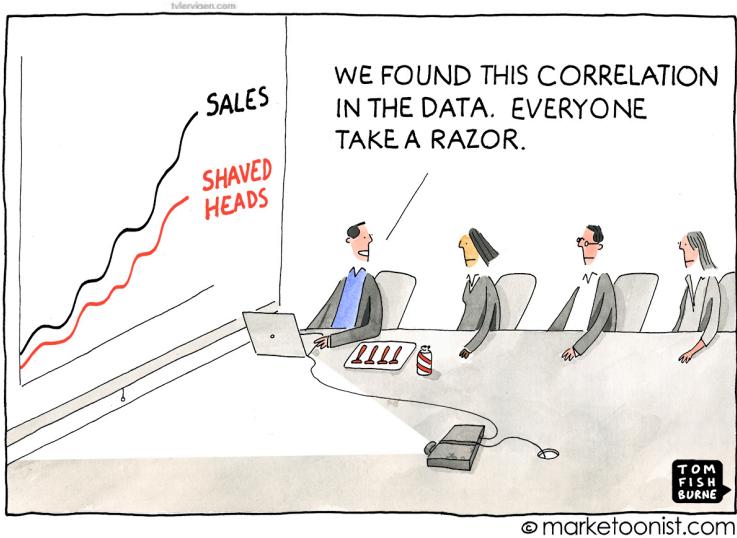
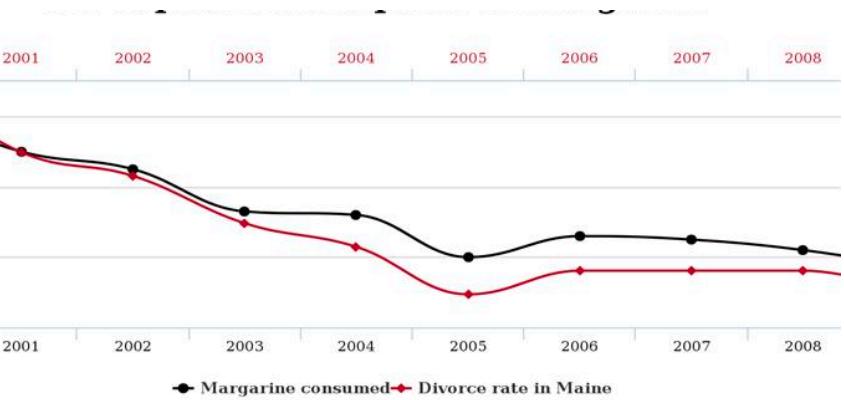
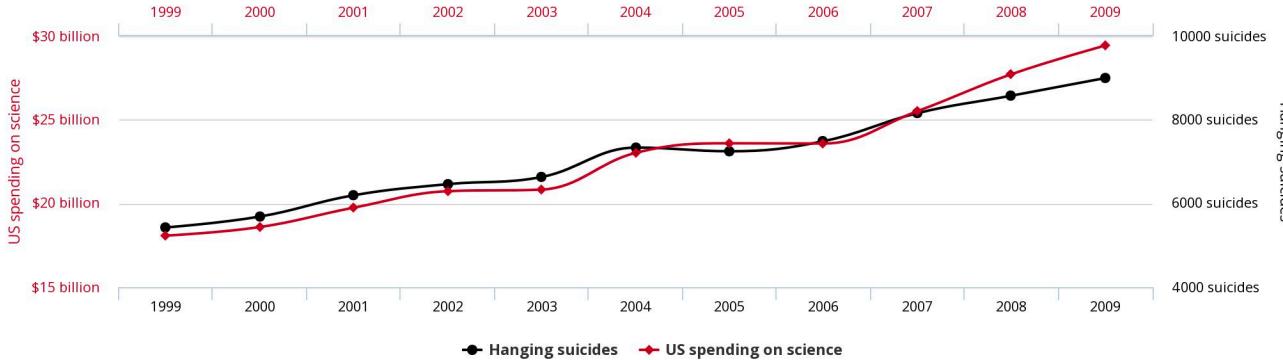
Per capita consumption of margarine



US spending on science, space, and technology

correlates with

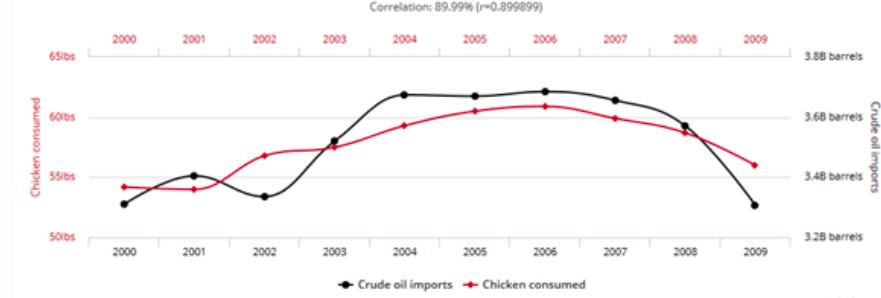
Suicides by hanging, strangulation and suffocation



Per capita consumption of chicken

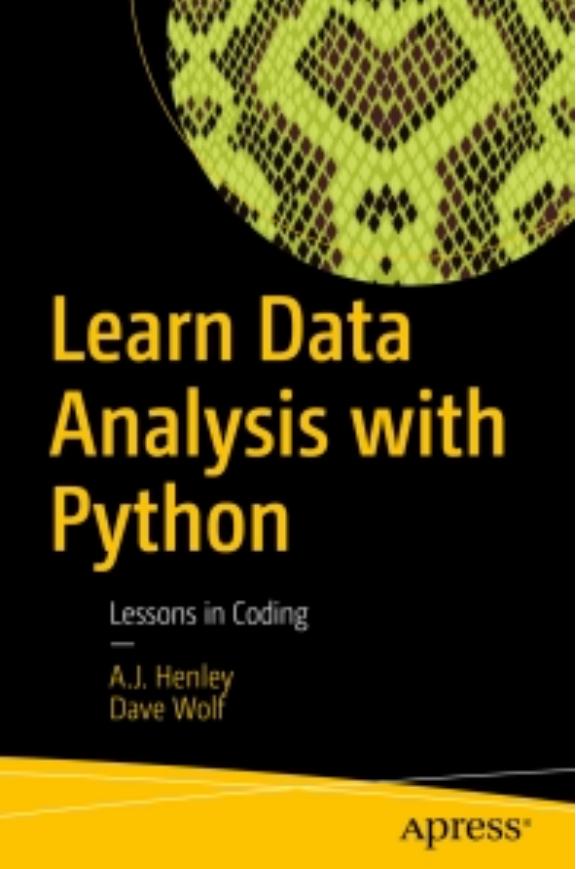
correlates with

Total US crude oil imports



Can Data trick you – Correlation does not Imply Causation

Ex: Iphones sales ~ Marandzas in Moz



Learn Data Analysis with Python

Lessons in Coding

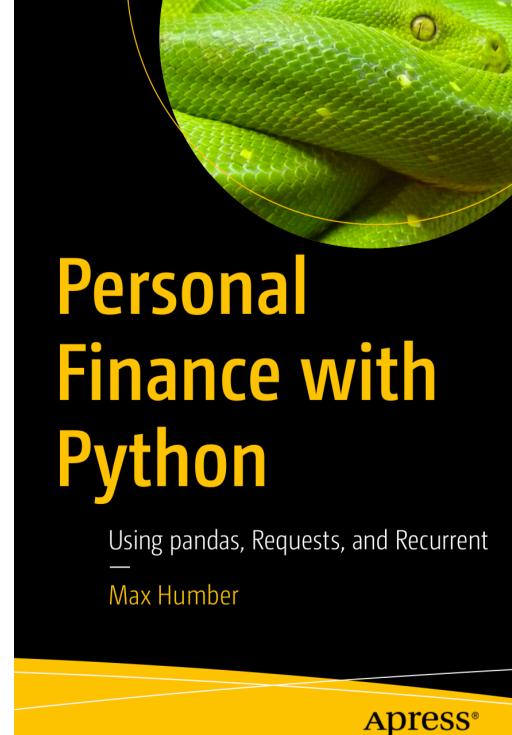
A.J. Henley
Dave Wolf

Apress®



Data Science from Scratch

FIRST PRINCIPLES WITH PYTHON

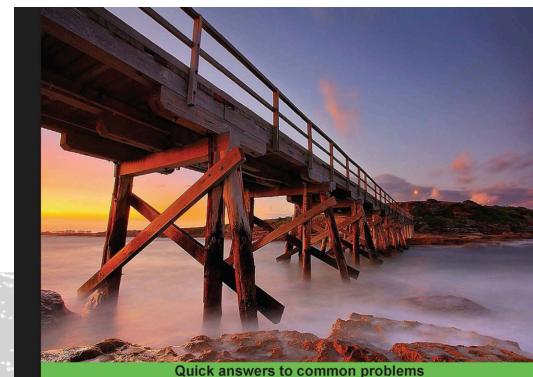


Personal Finance with Python

Using pandas, Requests, and Recurrent

Max Humber

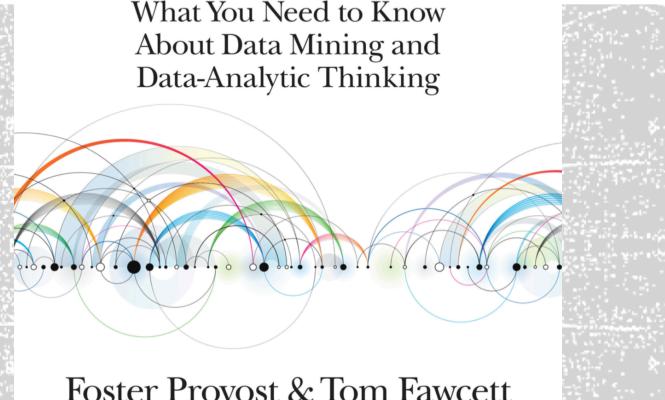
Apress®



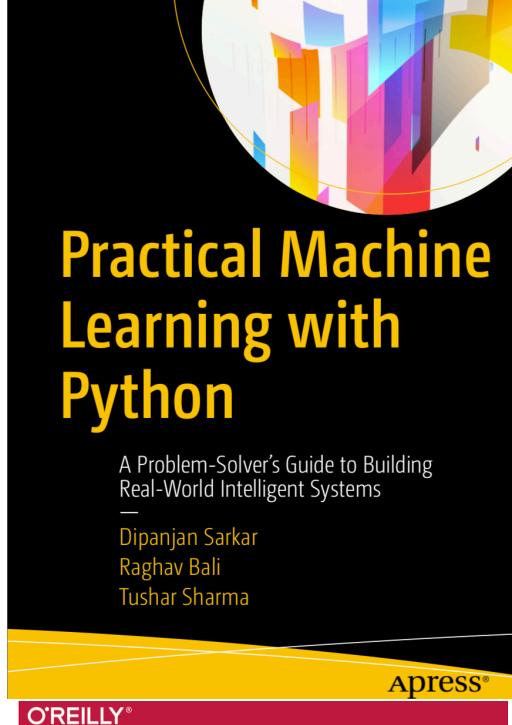
Practical Data Science Cookbook

89 hands-on recipes to help you complete real-world data science projects in R and Python

Tony Ojeda Sean Patrick Murphy [PACKT] open source
Benjamin Bengfort Abhijit Dasgupta community experience distilled



Foster Provost & Tom Fawcett



Practical Machine Learning with Python

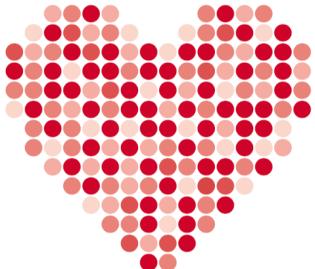
A Problem-Solver's Guide to Building Real-World Intelligent Systems

Dipanjan Sarkar
Raghav Bali
Tushar Sharma

Apress®

Learning to Love **Data Science**

Exploring Predictive Analytics, Machine Learning, Digital Manufacturing, and Supply Chain Optimization



Mike Barlow

Thank you for your patience

WHERE TO FIND ME



larslemos@gmail.com



[lars-lemos-28446152](#)



[lassinialbino](#)



github.com/larslemos



[@toplars](#)

