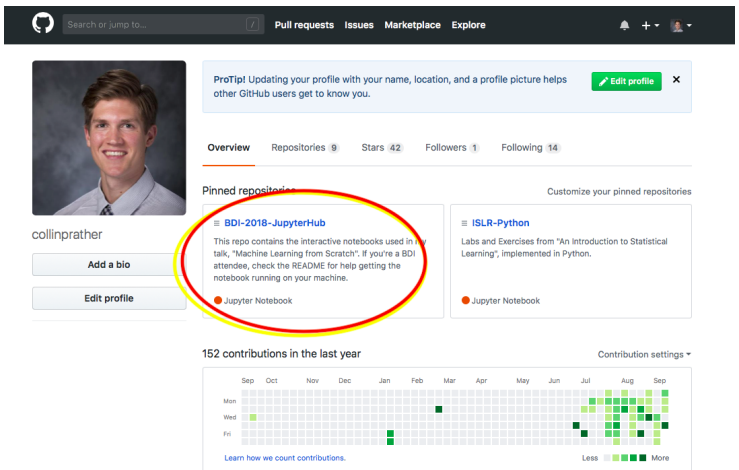
Welcome!

While you're waiting... I've prepared a Jupyter notebook that we will use to explore our data and build a machine learning algorithm from scratch. In order to get the notebook up and running on your computer:

1.) Head to *https://github.com/collinprather*
2.) Click on the "BDI-2018-JupyterHub" repository
3.) Scroll down and follow the step-by-step instructions in the readme.md



Machine Learning From Scratch

Collin Prather

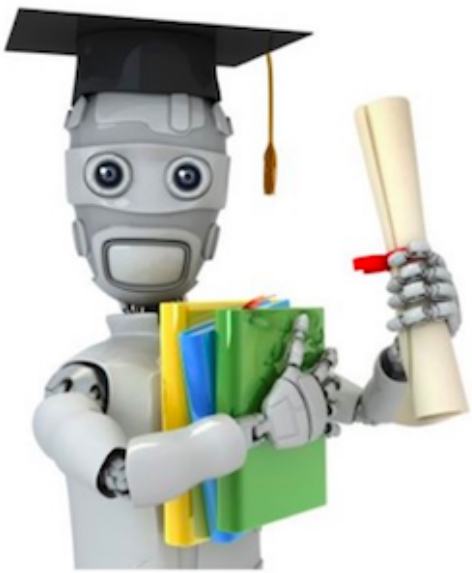
September 21st, 2018

Machine Learning Overview
- Model Selection
- Problem Identification
- Getting the Data

Building a Support Vector Machine from Scratch
- Representation
- Evaluation
- Optimization

Exploring Scikit-Learn and applying to GR Crash dataset

What is Machine Learning?



Machine Learning

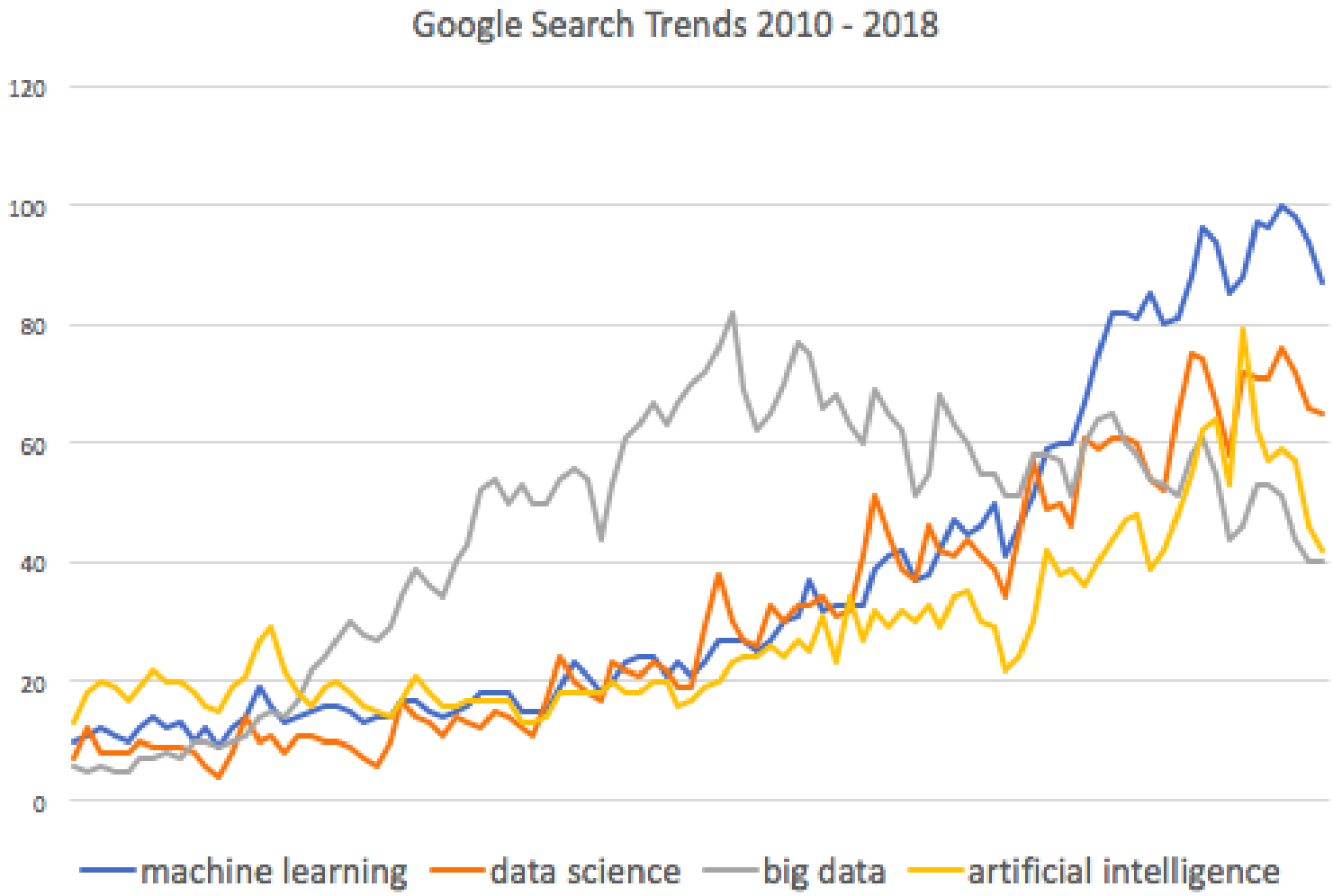
Arthur Samuel:

Machine learning is "Field of study that gives computers the ability to learn without being explicitly programmed".

Types of Machine Learning Models

	Classification	**Regression**
Supervised	• Logistic Regression • Naive-Bayes • KNN • SVM	• Linear Regression • Decision Trees • Random Forests
Unsupervised	• Apriori • Hidden Markov Model	• PCA • K-means • SVD

According to Google...



Identify the Problem

Get the Data

In our case, we'll head to GRData

Machine Learning Overview
- Model Selection
- Problem Identification
- Getting the Data

Building a Support Vector Machine from Scratch
- Representation
- Evaluation
- Optimization

Exploring Scikit-Learn and applying to GR Crash dataset