

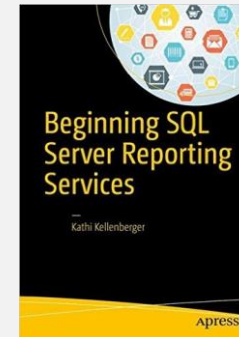
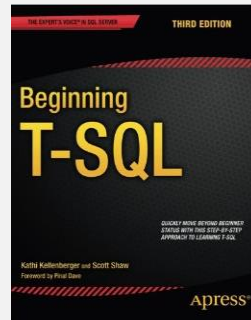
AZURE ML 101

Kathi Kellenberger

Redgate Software

WHO AM I?

- Lifelong learner
- Teacher
- Author
- Editor!



PLURALSIGHT



AGENDA

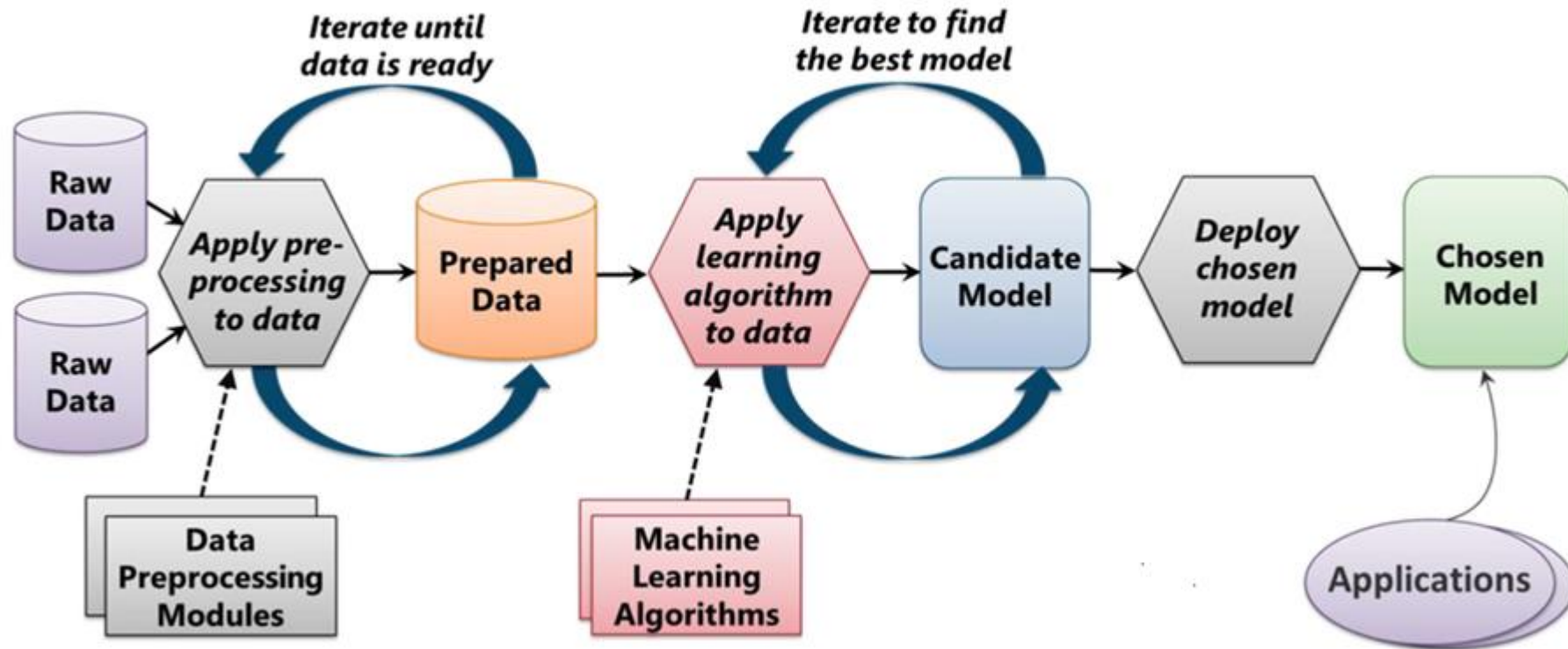
- What is machine learning?
- How to use Azure ML for free
- Demo!!
- Where to learn more about data science and machine learning

What is Machine Learning?

- Branch of computer science in which a computer "learns" from data in order to perform predictive analytics
 - Credit-card fraud detection
 - Online shopping recommendations
 - Self-driving cars and more
- Supervised learning
 - Regression and classification
- Unsupervised learning
 - Clustering
 - Association

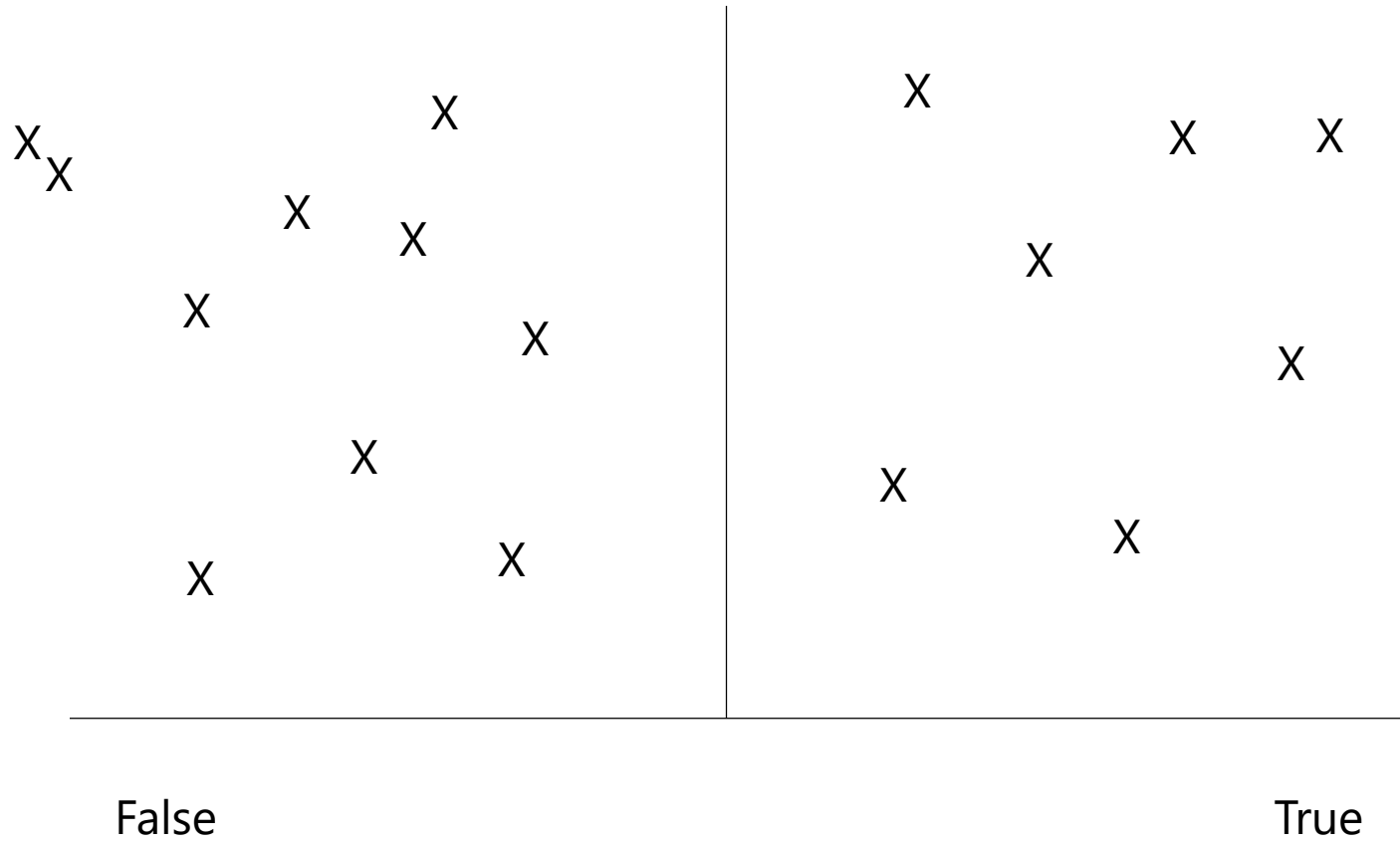


The Machine Learning Process

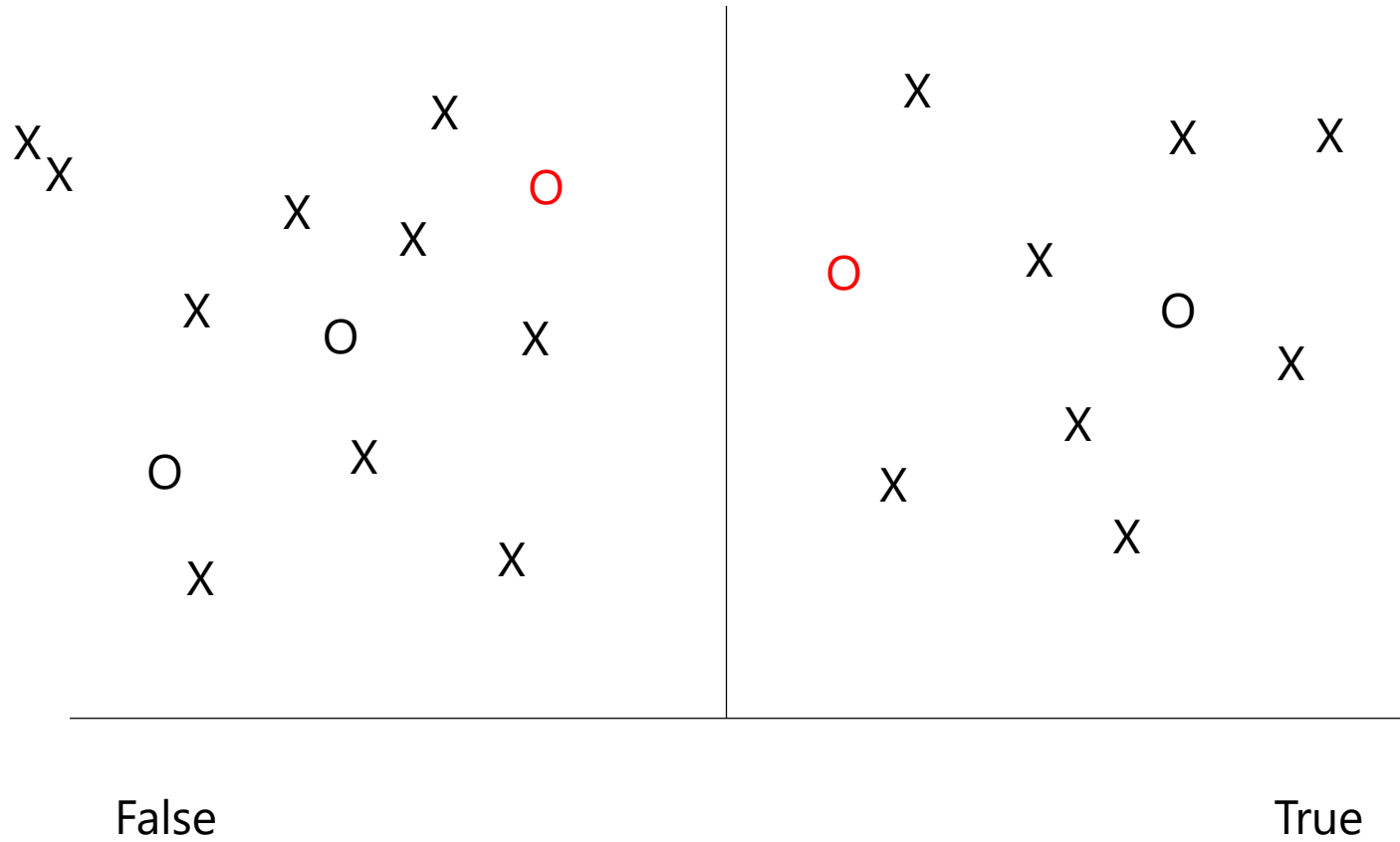


From "Introduction to Microsoft Azure" by David Chappell

Classification

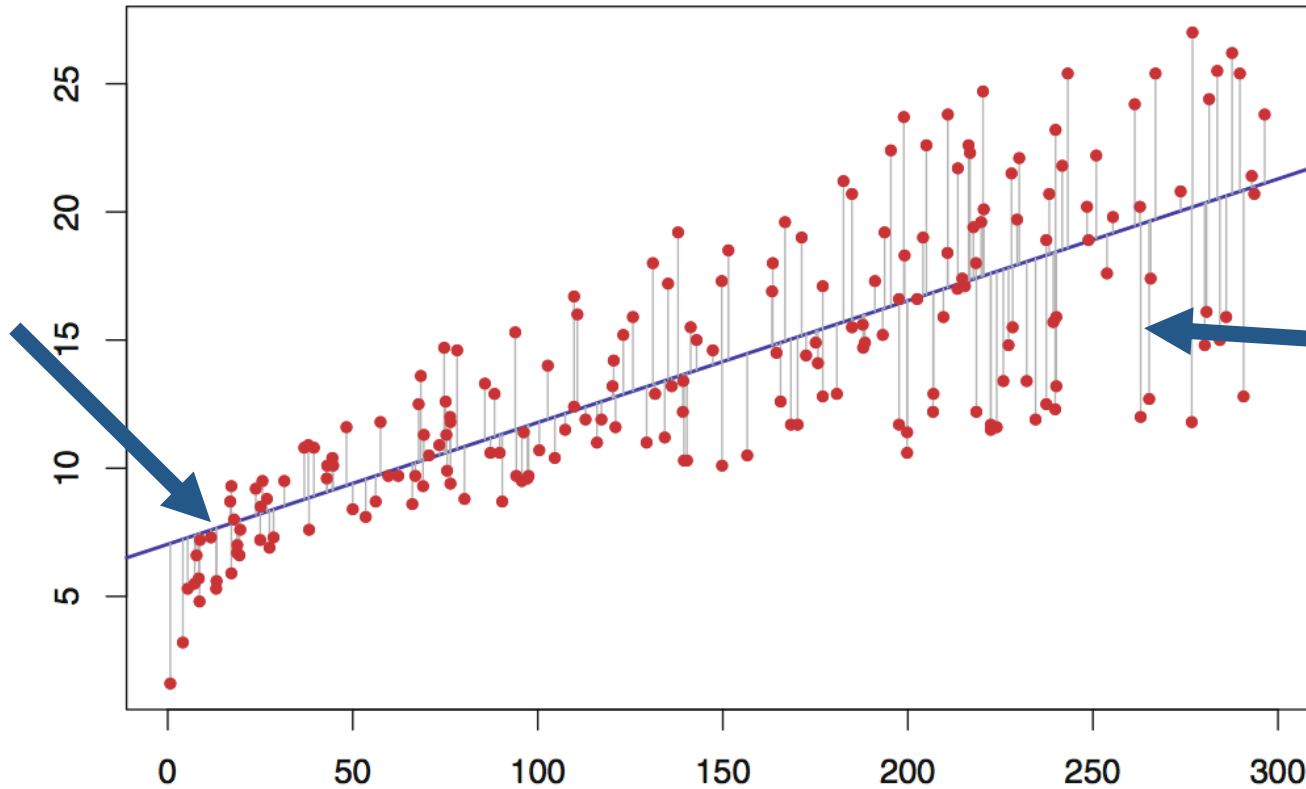


Classification



Simple (Univariate) Linear Regression

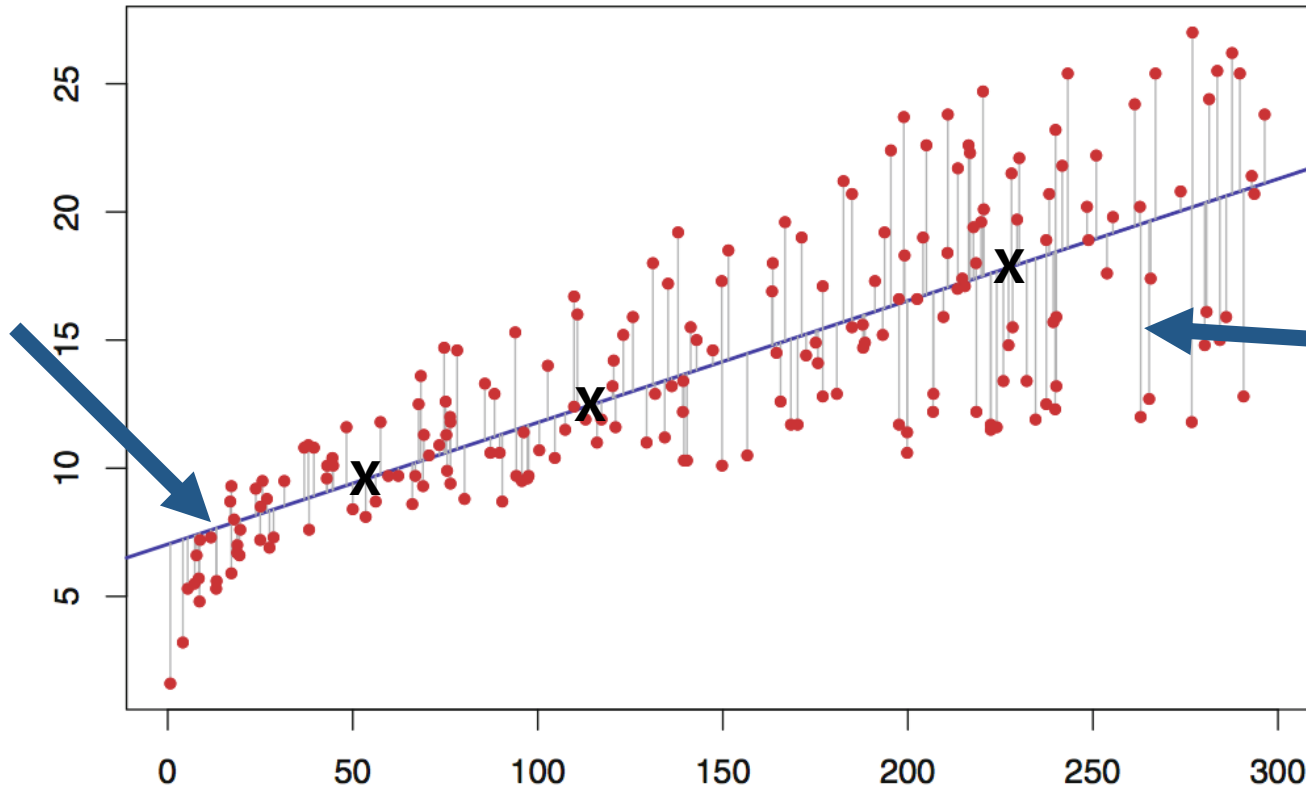
Regression line represented by an equation of the form $Y = b_0 + b_1X$ where Y is the dependent variable



Error between actual and computed output minimized using least-squares or gradient-descent method

Simple (Univariate) Linear Regression

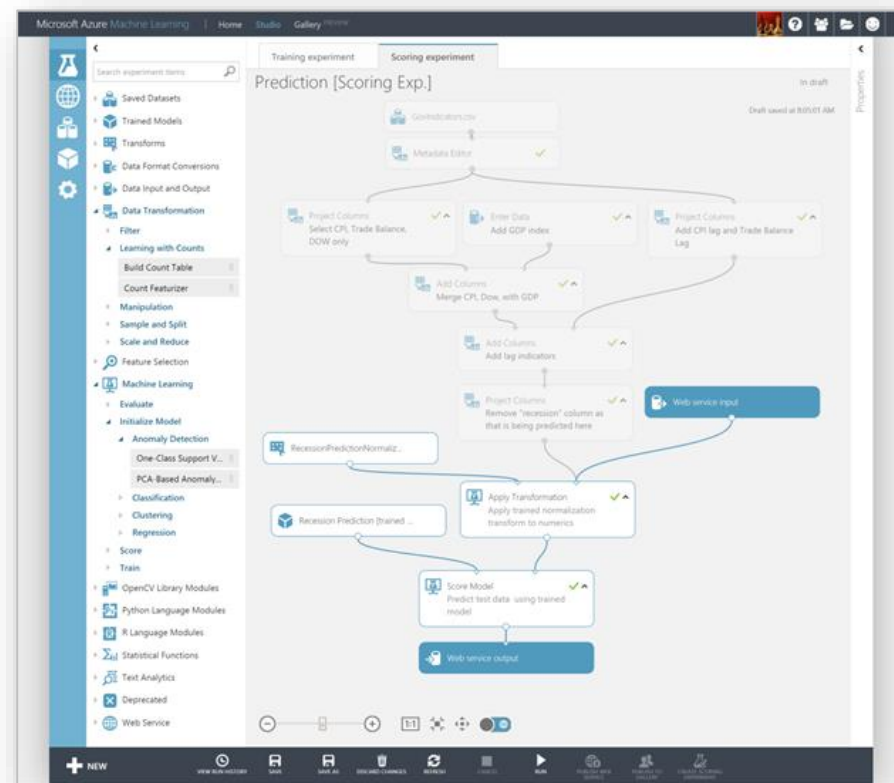
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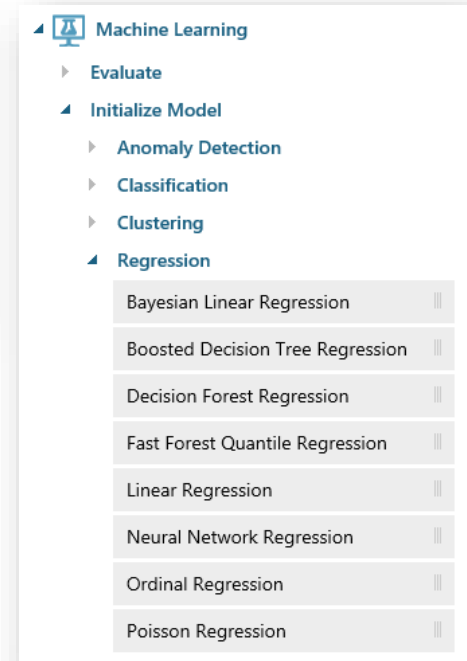
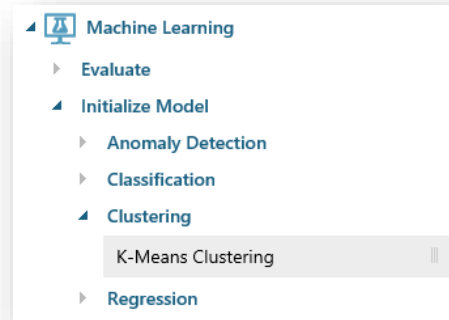
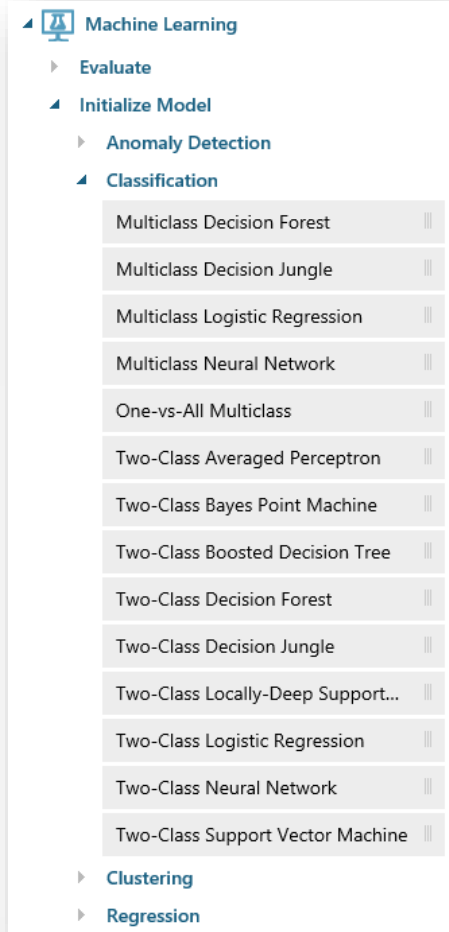
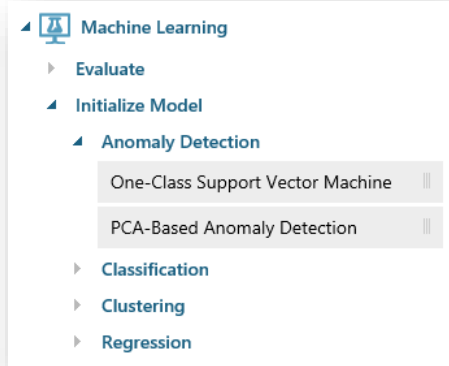
Error between actual and computed output minimized using least-squares or gradient-descent method

Azure Machine Learning Studio

- Visual editor for composing, testing, refining, and deploying machine-learning models
 - Includes hundreds of modules
 - Includes common algorithms for classification, regression, and more
 - Supports numerous input formats
 - Supports R and Python
- Machine learning for the masses



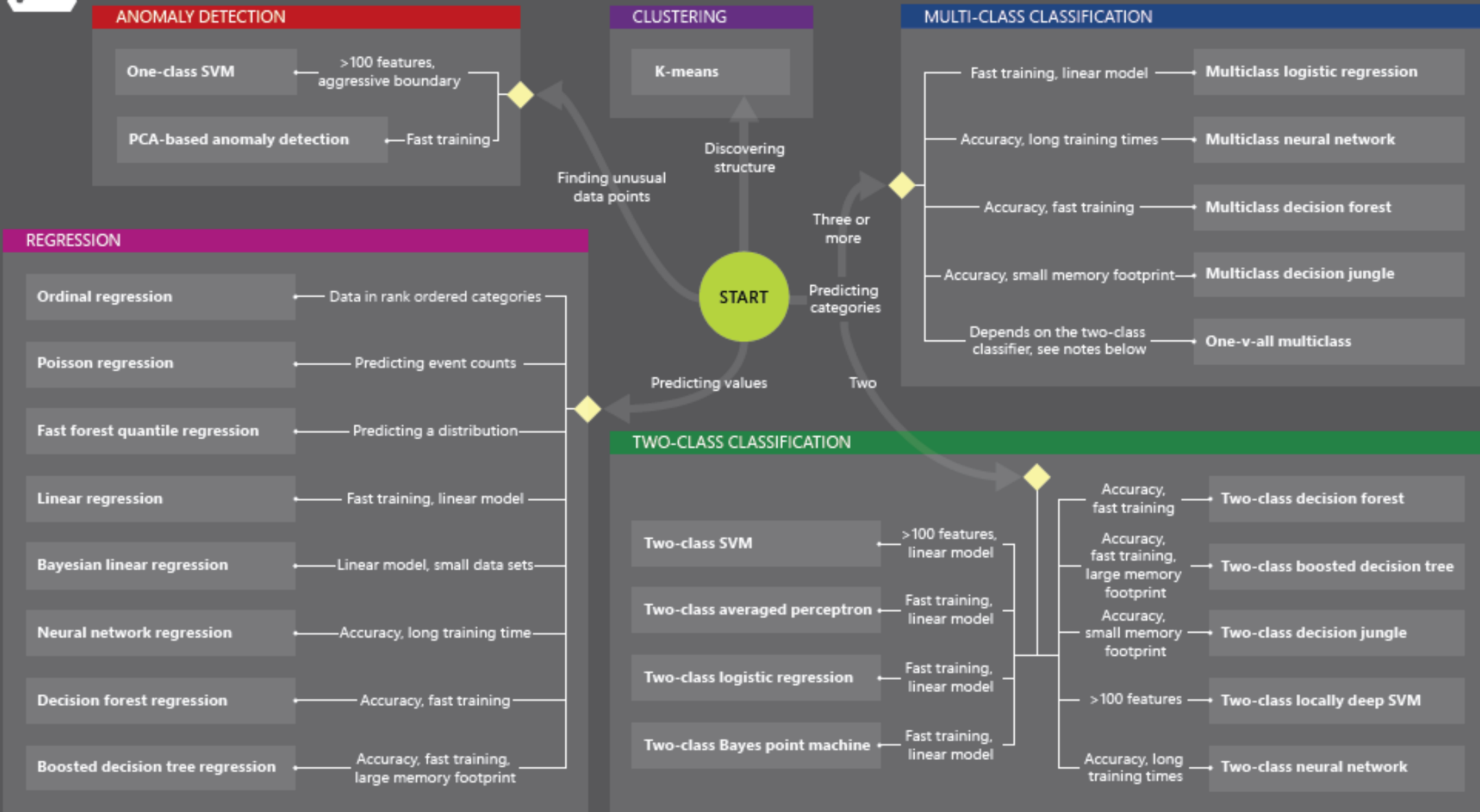
Azure Machine Learning Algorithms



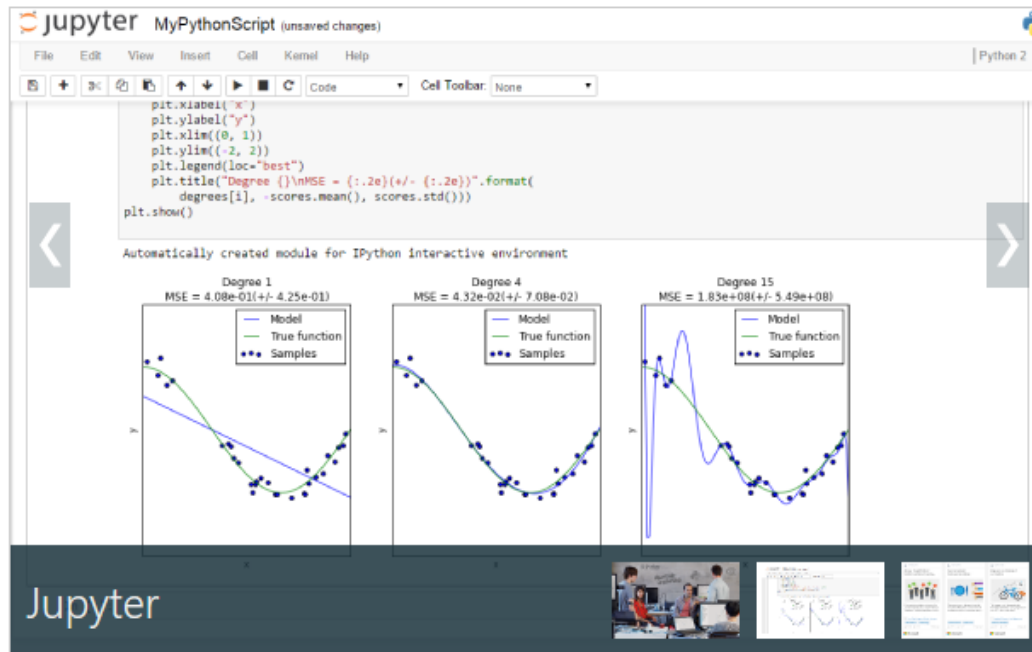


Microsoft Azure Machine Learning: Algorithm Cheat Sheet

This cheat sheet helps you choose the best Azure Machine Learning Studio algorithm for your predictive analytics solution. Your decision is driven by both the nature of your data and the question you're trying to answer.



<http://aka.ms/MLCheatSheet>



Welcome to Azure Machine Learning

Try it for free

No Azure subscription? No credit card? No problem! Choose anonymous Guest Access, or sign in with your work or school account, or a Microsoft account.

[Sign Up](#)

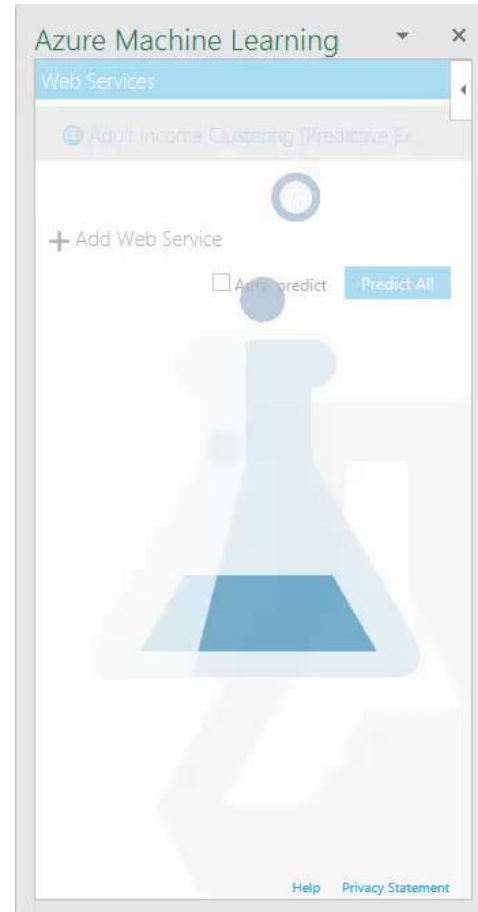
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[Sign in here](#)

Pricing & FAQ

By using this free version, you agree to be bound by the Microsoft Azure Website Terms of Use.

<http://studio.azureml.net>

Demo!





11 Data Science Skills. 1.5 Million Jobs.

Opportunities for data scientists—one of today's hottest jobs—are rapidly growing in response to the exponential amounts of data being captured and analyzed. Companies hire data scientists to find insights and to solve meaningful business problems.

Microsoft Professional Program for Data Science

Microsoft consulted data scientists and the companies that employ them to identify the core skills they need to be successful. This informed the curriculum used to teach key functional and technical skills, combining highly rated online courses with hands-on labs, concluding in a final capstone project.

11

REQUIRED COURSES

8 - 12

HOURS PER COURSE

11

SKILLS

[Enroll Now >](#)

Links

- <https://academy.microsoft.com/en-us/professional-program/tracks/data-science/>
- Edx.org
- <https://aka.ms/amlexcel-addin>
- [http:// studio.azureml.net](http://studio.azureml.net)
- <http://aka.ms/MLCheatSheet>
- <https://blogs.technet.microsoft.com/machinelearning/>