

Applying Machine Learning Algorithms



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CLOUD SOLUTION ARCHITECT

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Overview

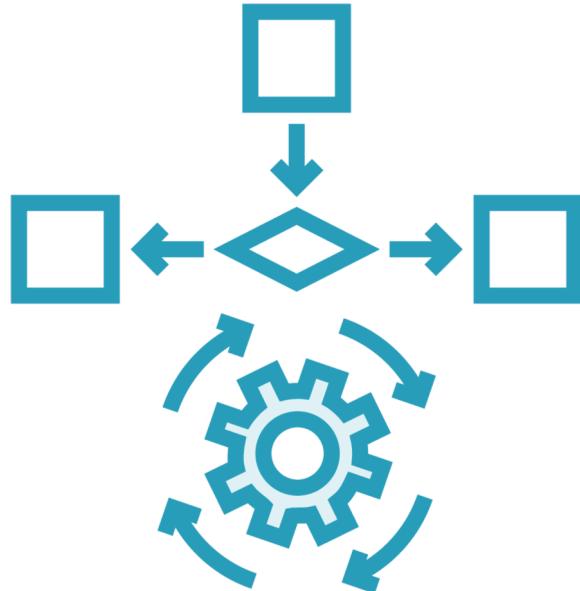


Define ML Algorithms

Implementing ML Algorithms in Azure ML Designer



Machine Learning Algorithms



Using code to help understand complex data set

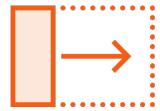
Examples are Regression or Classification

Typically fall into these categories

- Supervised Learning
- Unsupervised Learning
- Reinforcement Learning



What Can You Do with ML Algorithms



Predict Values



Select/Choose between two options



Group/Classify Items together



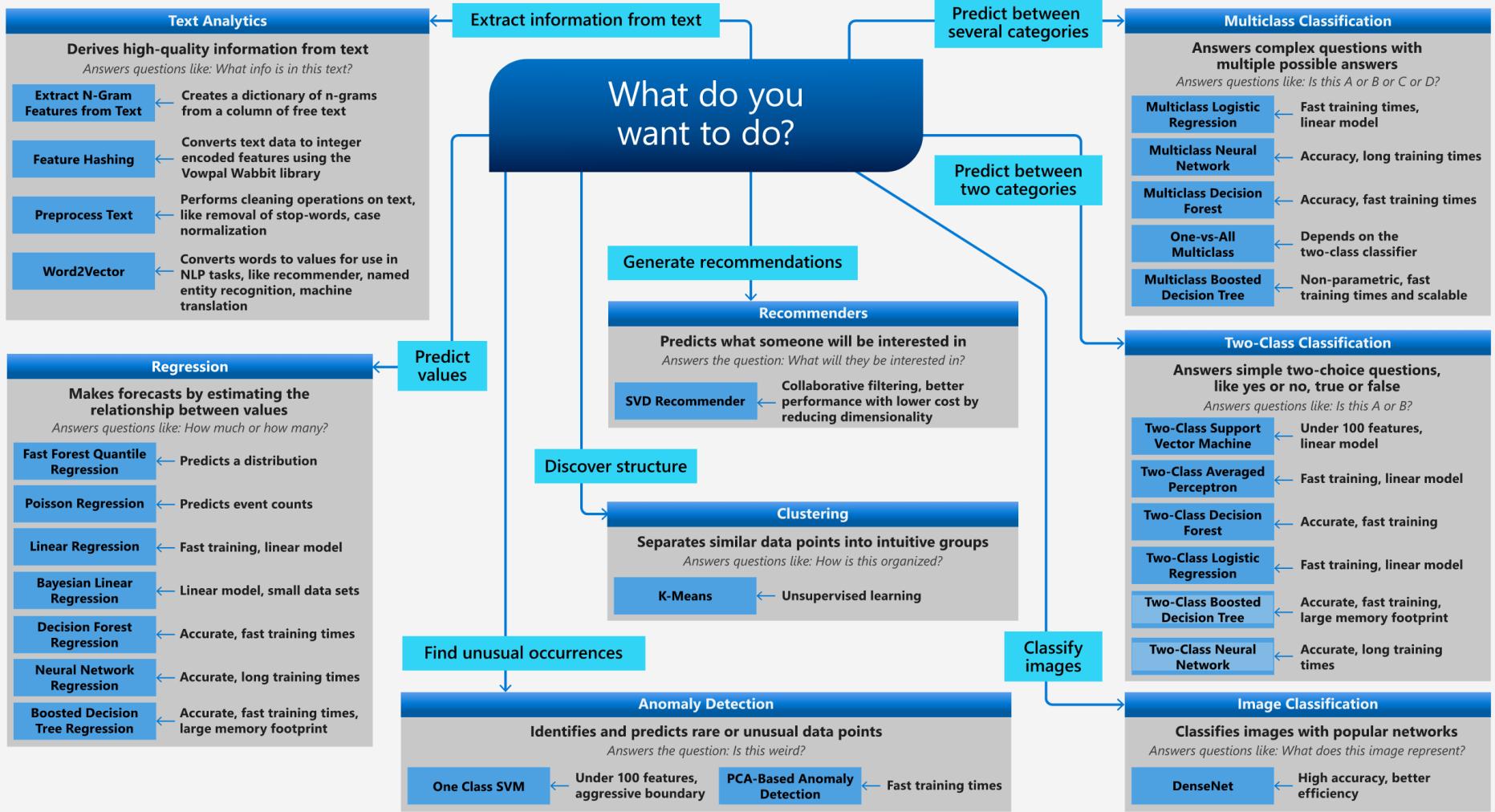
Azure Machine Learning Cheat Sheet





Microsoft Azure Machine Learning Algorithm Cheat Sheet

This cheat sheet helps you choose the best machine learning algorithm for your predictive analytics solution. Your decision is driven by both the nature of your data and the goal you want to achieve with your data.



Questions to Ask

**What do you want to do with
the Data**

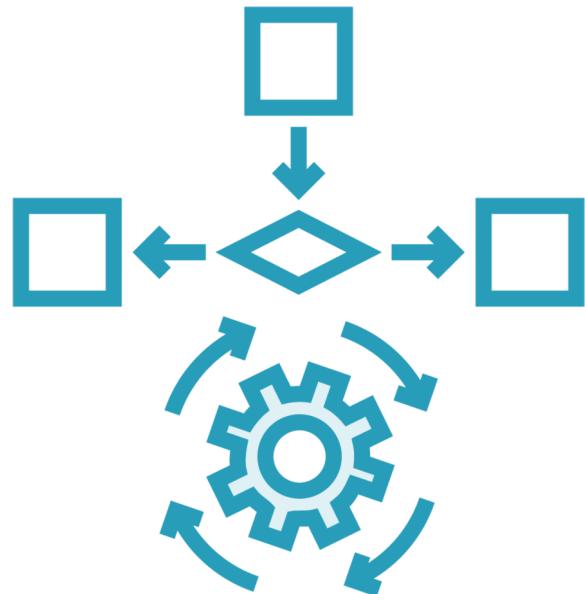
**Review the Algorithm Cheat
Sheet**

**Which Algorithm can Answer
the Question**

**What Additional
Requirements are need**



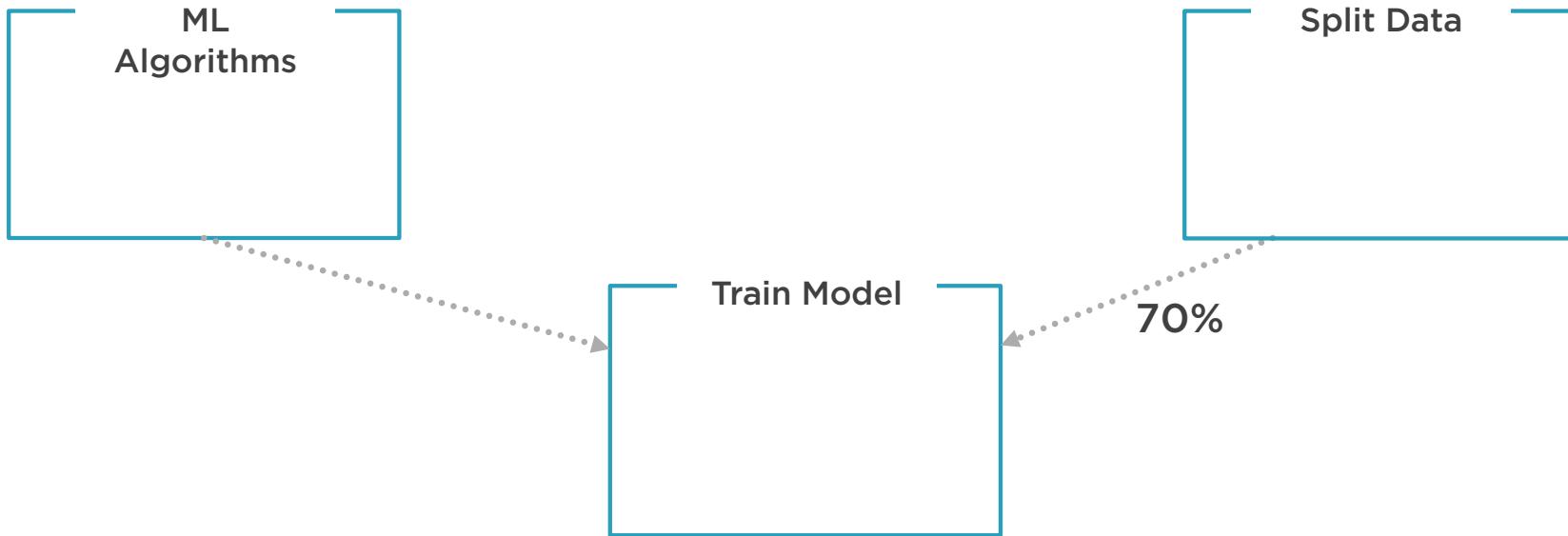
Connecting Algorithms in Azure ML Designer



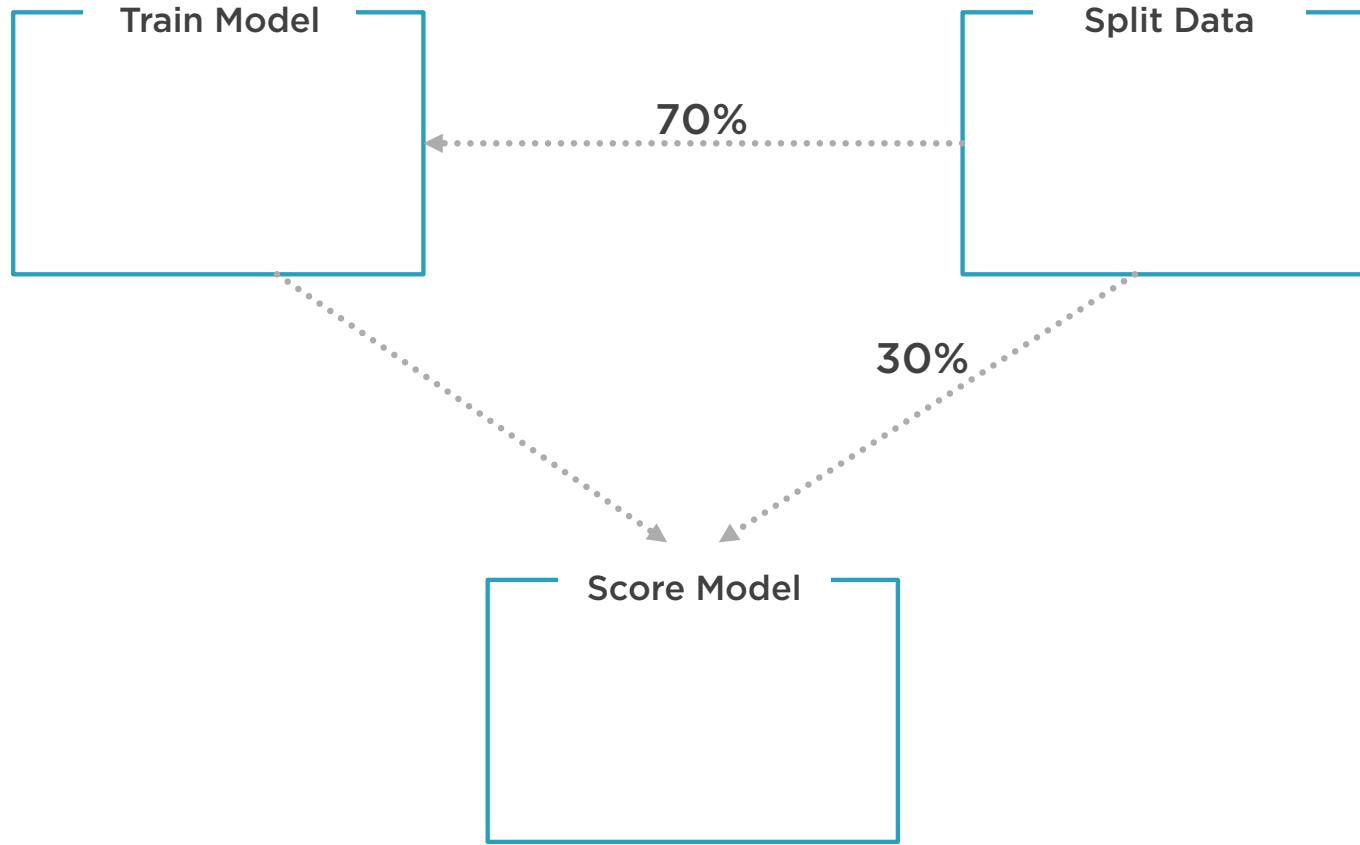
Train the Model
Score the Model
Evaluate the Model



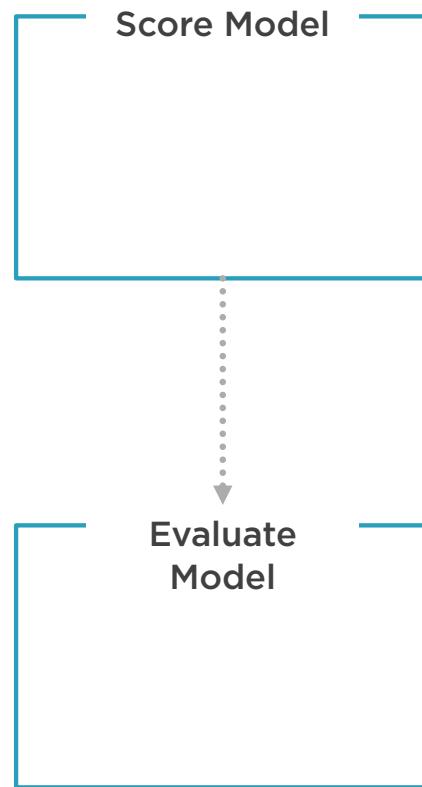
Train the Model



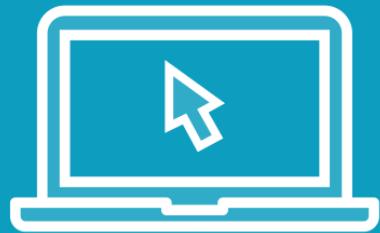
Score the Model



Evaluate the Model



Demo



Selecting an ML Algorithm in Azure ML Designer

**Connect Algorithm Module to be Trained,
Scored and Evaluated**



Summary



Defined ML Algorithms

Implemented ML Algorithm in Azure ML Studio



Publish and Deploy Machine Learning Models in Azure Machine Learning Designer



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Overview



Publish Azure ML Models

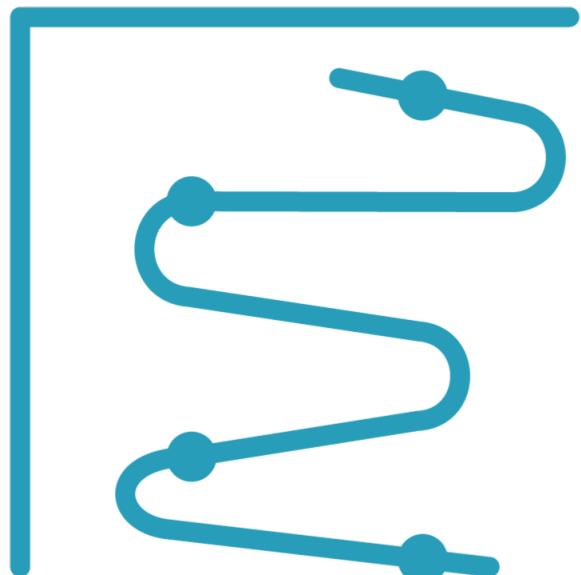
Deploy a Predictive Service

Create a Real Time Pipeline

Create a Batch Pipeline



Release your ML Pipeline



Pipeline must have been submitted

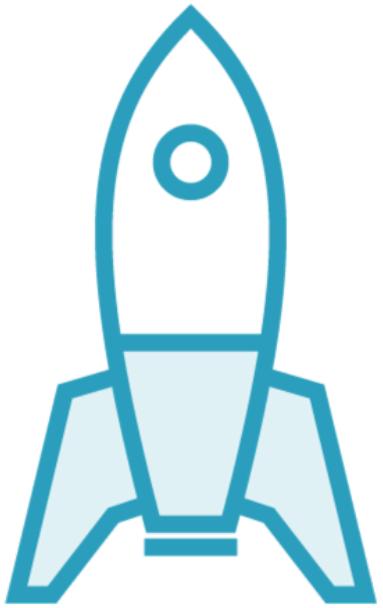
Deploy a Real-time Inference Pipeline

- Requires Azure Kubernetes Cluster

Publish a Batch Inference Pipeline

- Requires Compute Cluster





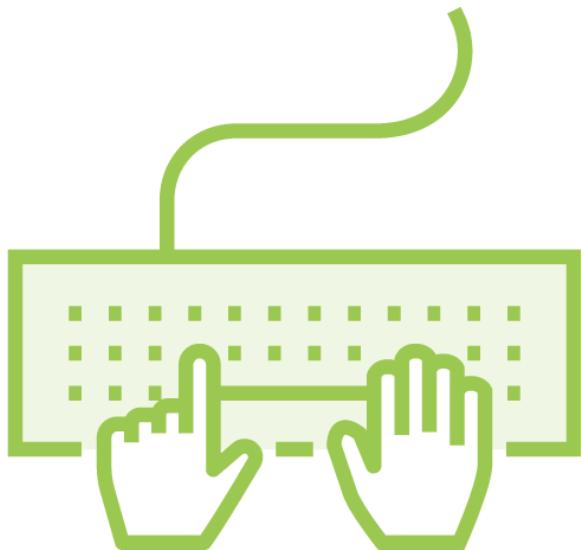
Deploy a Real-time Inference Pipeline

Ability to connect from External App to Scored Model

Predict Results

REST API Key used to call through endpoint

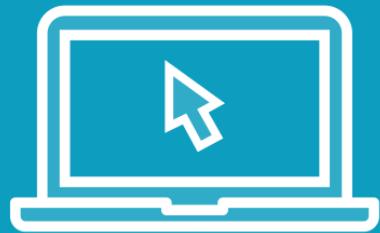




- Publish Batch Inference Pipeline**
- Runs from External Application with REST calls**
- Cannot send or receive data in real-time with endpoint**
- Flexible Pipelines**
 - Publish multiple pipeline to a single pipeline endpoint
 - Specify which pipeline version to run



Demo



Deploy & Publish an Inference Pipeline



Summary



Published Azure ML Modules

Created Real Time and Batch Pipelines

Deployed a Predictive Service

