Azure Machine Learning

#AzureGlobalBootcamp 2017
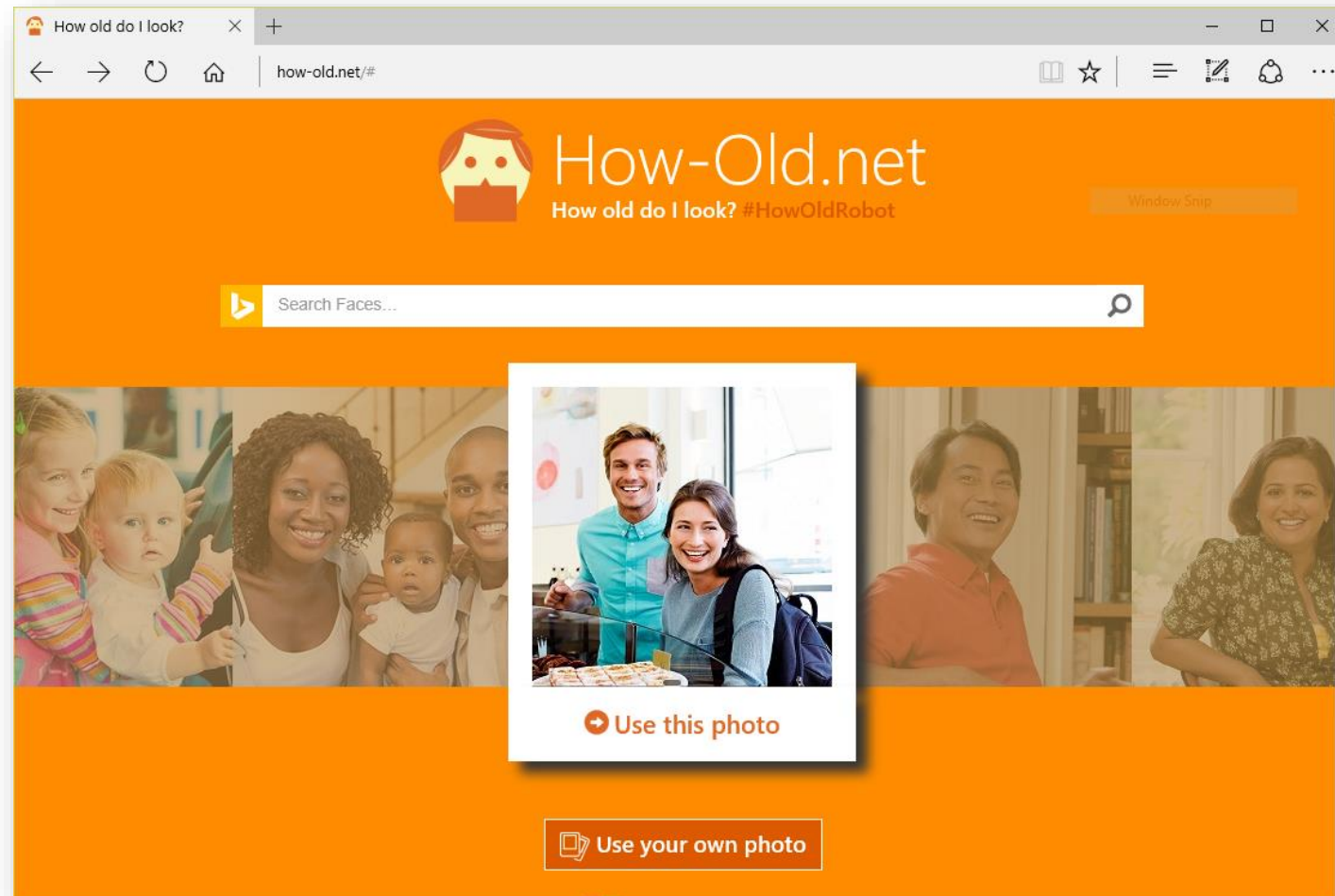
Toddy Mladenov

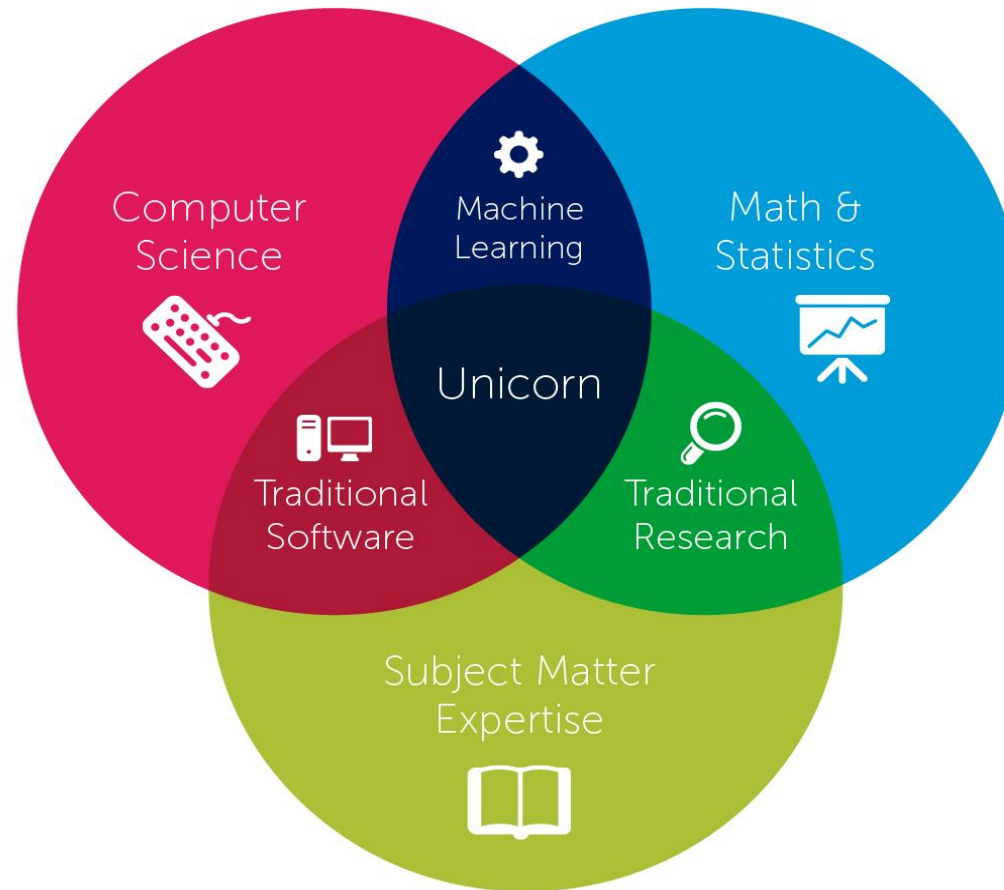toddysm@agitaretech.com

@toddysm

Quick Survey

Machine Learning in Action

What is Data Scientist?

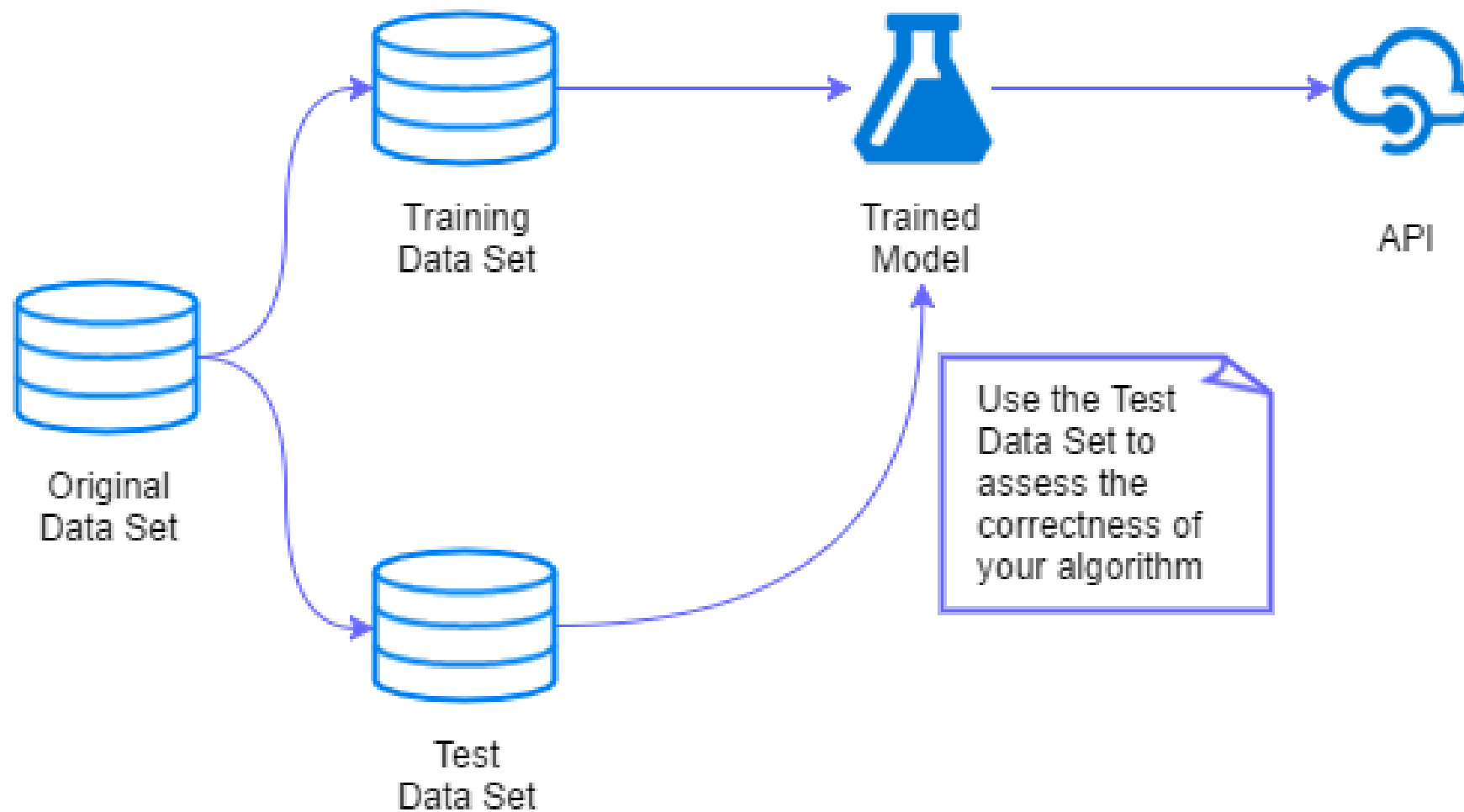# Lambda Architecture for Data Processing
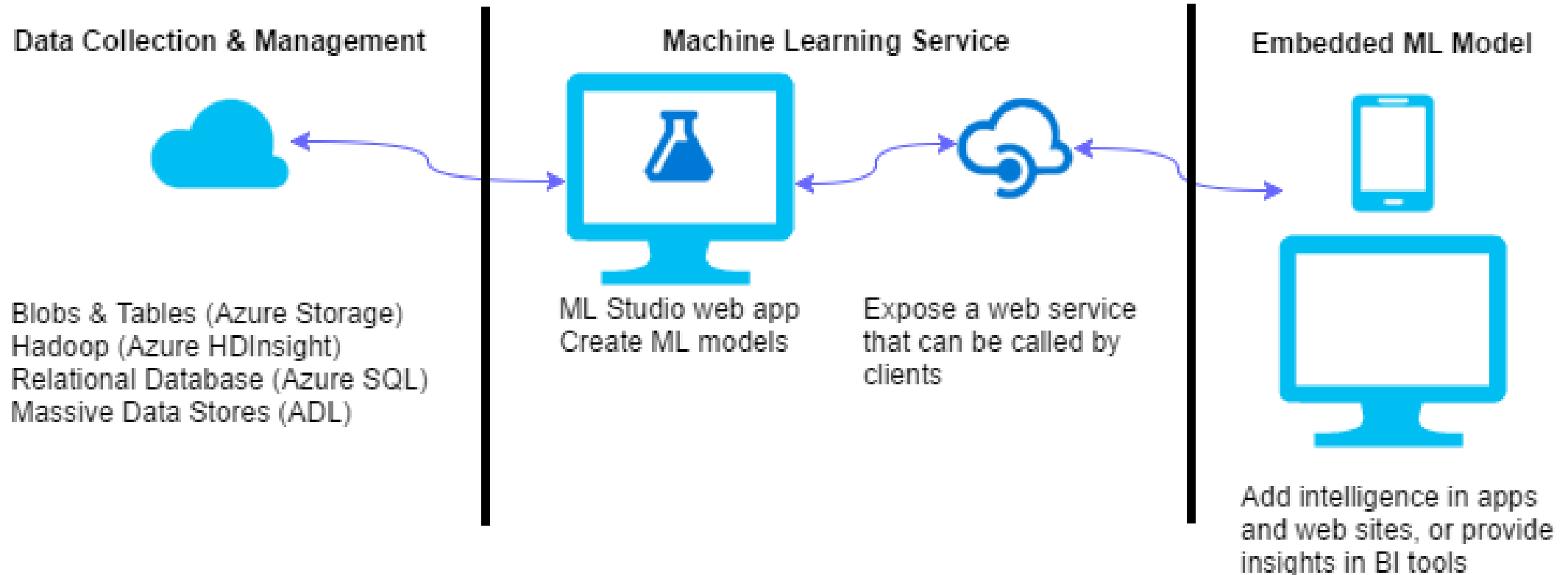
What is Machine Learning?

- Machine learning is a subfield of **computer science** that evolved from the study of **pattern recognition** and **computational learning theory** in artificial intelligence. Machine learning explores the study and construction of algorithms that can **learn from and make predictions on data***

- Models
  - Supervised
  - Unsupervised

* Definition: Wikipedia

Machine Learning Workflow

Machine Learning Workflow (cont.)

Data Collection & Management

Blobs & Tables (Azure Storage)
Hadoop (Azure HDInsight)
Relational Database (Azure SQL)
Massive Data Stores (ADL)

Machine Learning Service

ML Studio web app
Create ML models

Expose a web service
that can be called by
clients

Embedded ML Model

Add intelligence in apps
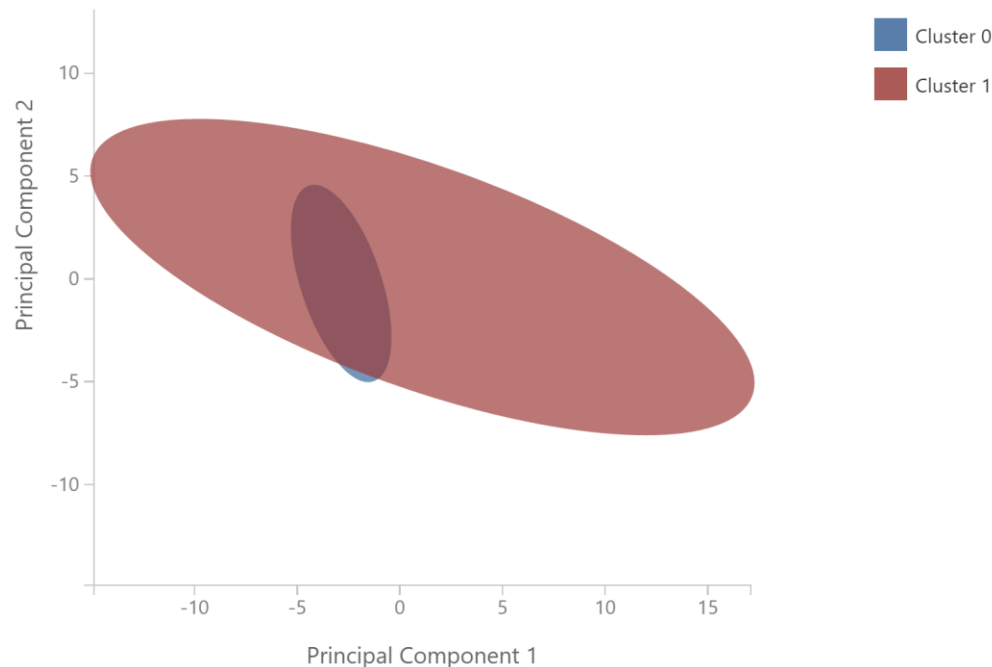and web sites, or provide
insights in BI tools

Azure Machine Learning

- Fully Managed
  - No software to install, no hardware to manage, and one portal to view and update
- Integrated
  - Simple drag, drop and connect interface for Data Science. No need for programming for common tasks
- Best in Class Algorithms + R (and Python)
  - Built-in collection of best of breed algorithms. Support for R and popular CRAN packages
- Deploy in Minutes
  - Operationalize models with a single click. Monetize in Machine Learning Marketplace

K-Means Clustering

- K-means clustering aims to partition n observations into k clusters in which each observation belongs to the cluster with the nearest mean, serving as a prototype of the cluster.

Demo

Resources

- Azure ML Cheat Sheet
  http://aka.ms/MLCheatSheet

- Azure ML eBook (Free)
  http://bit.ly/a4r-mlbook

- DataCamp
  https://www.datacamp.com/

- DataQuest
  https://www.dataquest.io

- Kaggle (data sets)
  http://www.kaggle.com

- Cortana Intelligence Gallery
  https://gallery.cortanaintelligence.com

- Azure Global Boot Camp Community Content
  https://github.com/Microsoft/TechnicalCommunityContent/tree/master/Big%20Data%20and%20Analytics/Azure%20Machine%20Learning

Thank you!