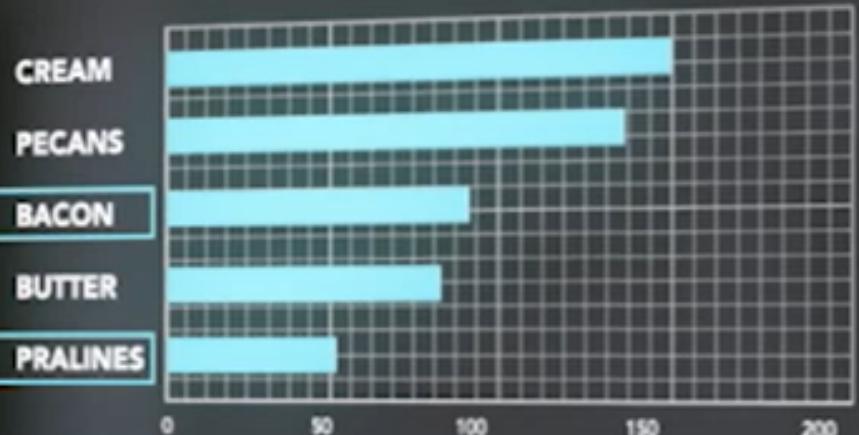
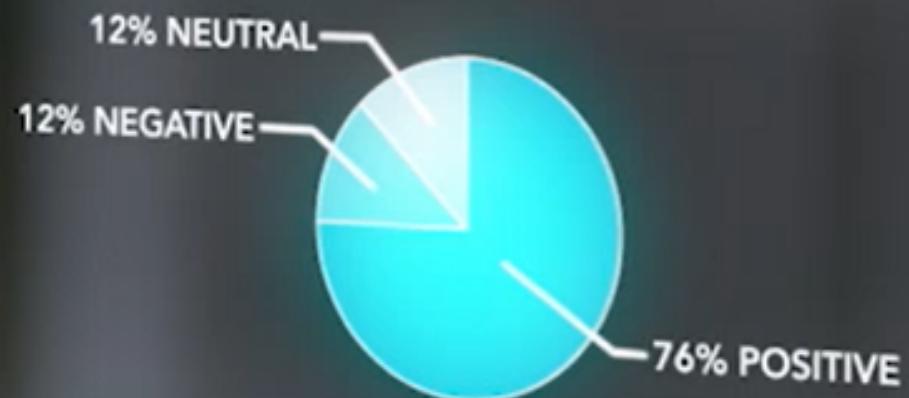


BEST SELLER: PECANS & CREAM

SOCIAL AFFINITY SEARCH



SENTIMENT ANALYSIS: BACON + PRALINES

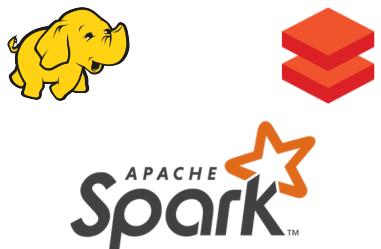


TensorFlow & Co as a Service

Sascha Dittmann
Cloud Solution Architect
Twitter: @SaschaDittmann

Microsoft Advanced Analytics Portfolio

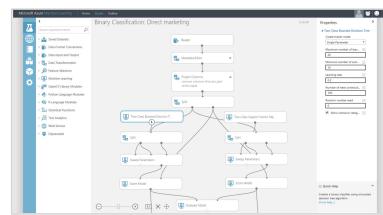
Data Engineer / Data Scientist



Big Data Platform

Run large massively parallel compute and data jobs

Citizen Data Scientist



Cloud Analytics

Easy drag/drop UX
With single click operationalization

Advanced Data Scientist



R- and Python-based Analytics

Enterprise grade,
write once,
deploy anywhere

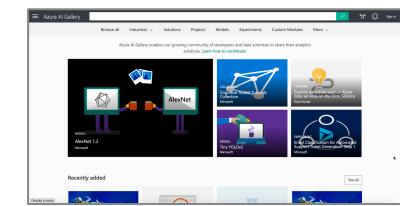
Developer



Analytics APIs

Ready to consume APIs for Vision, Speech, Language, Knowledge

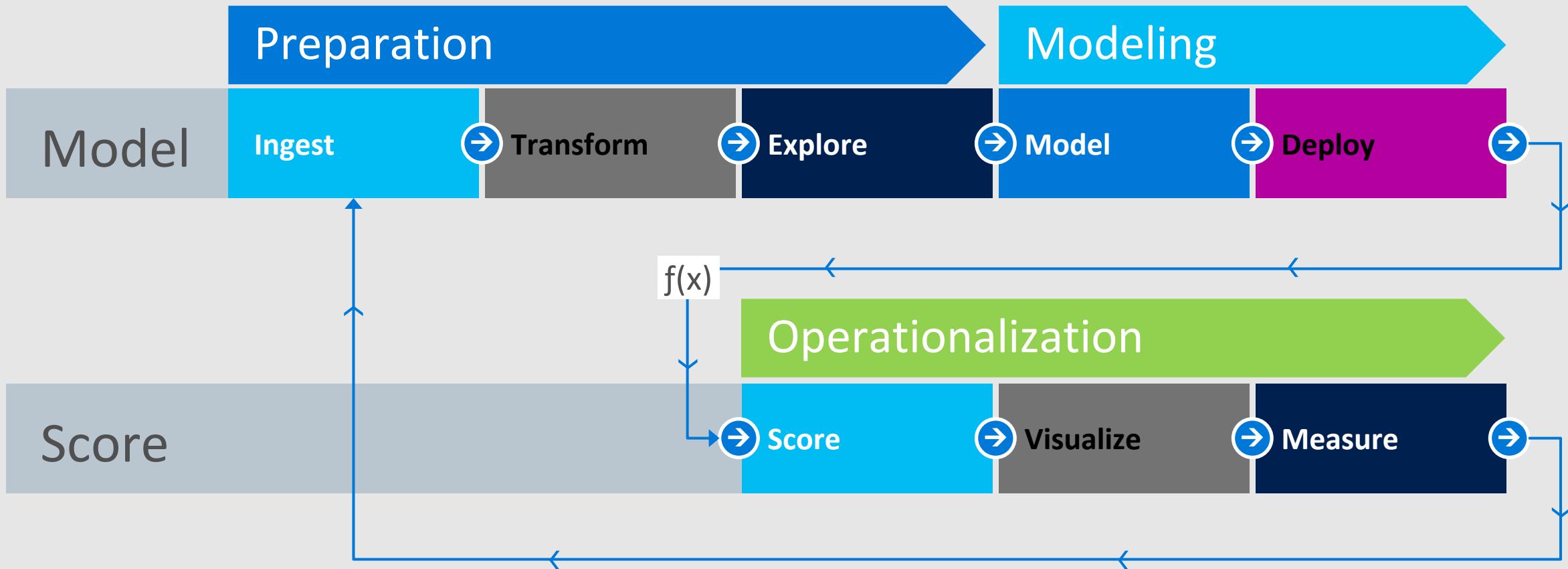
BDM/TDM



Finished Apps & Solutions

Ready to consume apps and solutions for solving specific business scenarios

Desired advanced analytics lifecycle



Azure Machine Learning Services



AZURE ML
SERVICES

USE ANY FRAMEWORK OR LIBRARY



USE ANY TOOL



USE THE MOST POPULAR INNOVATIONS



Machine learning for any skill level

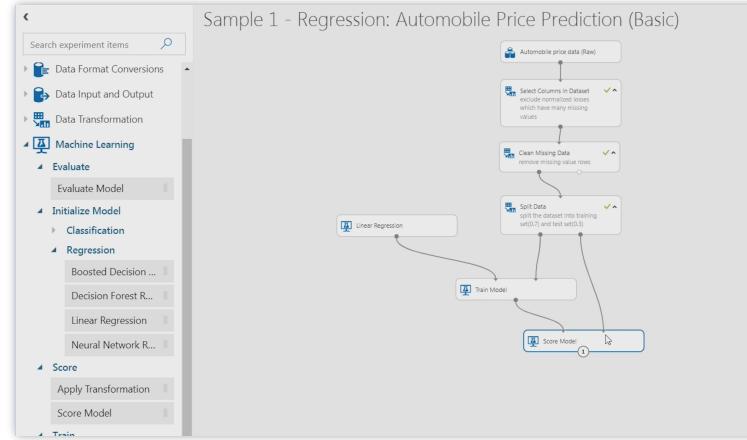
Welcome to Automated Machine Learning

Getting Started
Create your first experiment with automated machine learning to produce quality models with zero effort.

Create experiment

What's Possible with Automated Machine Learning
Automate the process of algorithm selection, hyperparameter tuning, and best model selection with automated machine learning, and accelerate your productivity. Select your data and let automated ML do the rest to provide the best model from endless possible options.

**Automated
machine learning UI**



Visual interface

jupyter distributed-pytorch-with-horovod Last Checkpoint: 5 minutes ago (autosaved)

File Edit View Insert Cell Kernel Widgets Help

+ ↻ ⏪ ⏴ ⏵ Run Markdown Edit Presentation Show Presentation Trusted Python 3

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Distributed PyTorch with Horovod
In this tutorial, you will train a PyTorch model on the [MNIST](#) dataset using distributed training via [Horovod](#) across a GPU cluster.

Prerequisites

- Go through the [Configuration](#) notebook to install the Azure Machine Learning Python SDK and create an Azure ML Workspace
- Review the [tutorial](#) on single-node PyTorch training using Azure Machine Learning

```
In [ ]: # Check core SDK version number
import azureml.core

print("SDK version:", azureml.core.VERSION)
```

Diagnostics

Machine learning notebooks

Databricks, Jupyter & Co

A screenshot of a desktop environment displaying multiple software interfaces side-by-side. At the top, there's a Databricks workspace window titled "Python error highlighting (Python)". Below it is an RStudio console window showing R version 3.6.1. To the right of the RStudio window is a Jupyter Notebook titled "spectrogram (autosaved)" running in Python 3. The Jupyter notebook contains code for audio signal processing and displays two plots: a "Raw audio signal" spectrogram and a "Spectrogram". A Visual Studio Code window is also visible at the bottom right, showing some code and a status bar indicating "Pending Time casting is".

Python error highlighting (Python)

Attached: Shared Autoscaling ... File View: Code Permissions Run All Clear

Cmd 1

```
1 a = 1
2 b = 2
3
4 a + b
```

Out[4]: 3

Azure Machine Learning Sample Explorer — Visual Studio Code

File Edit Selection View Go Debug Tasks Help

Welcome

RStudio

Console Terminal Jobs

R version 3.6.1 (2019-07-05)
Copyright (C) 2019 The R Foundation for Statistical Computing
Platform: x86_64-apple-darwin15.6.0

R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for more information.
Type 'contributors()' for more details.
Type 'citation()' for how to cite R or R packages.
Type 'demo()' for some demos, 'help.start()' for an HTML browser-based help system, or 'q()' to quit R.

Natural language support by default.

R is a collaborative project between R Core and the R Foundation.
Type 'contributors()' for more information.
Type 'citation()' for how to cite R or R packages.
Type 'demo()' for some demos, 'help.start()' for an HTML browser-based help system, or 'q()' to quit R.

In [2]: from scipy.io import wavfile
rate, x = wavfile.read('test_mono.wav')

And we can easily view its spectral structure using matplotlib's builtin specgram routine:

In [5]: fig, (ax1, ax2) = plt.subplots(1,2,figsize=(16,5))
ax1.plot(x); ax1.set_title('Raw audio signal')
ax2.specgram(x); ax2.set_title('Spectrogram');

Raw audio signal

Spectrogram

Project: (None)

Addins

Environment History Connections

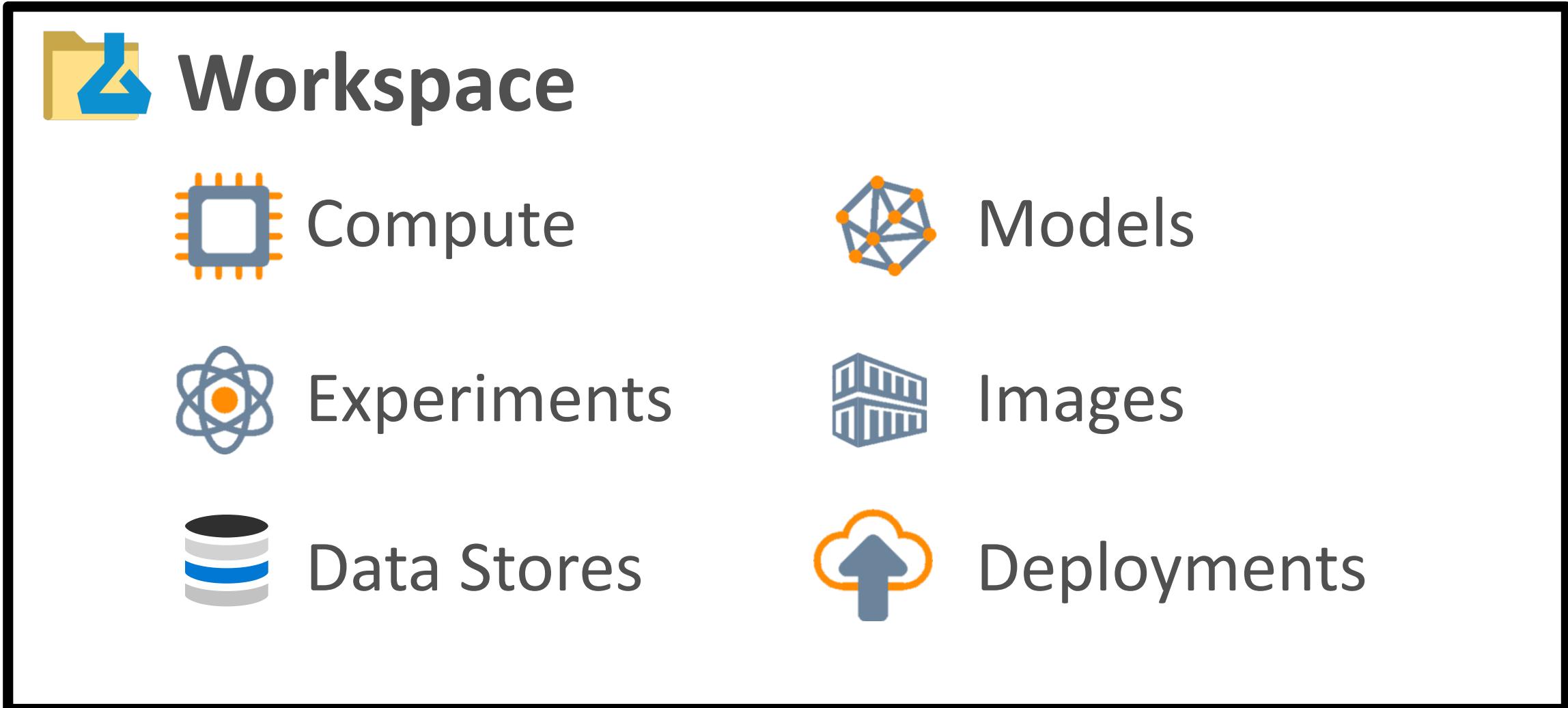
Python 3

How to use learning path buttons

install

Find Time casting is

ML Workspace (Logical)



ML Workspace (Physical)



Workspace



Storage



Container Registry

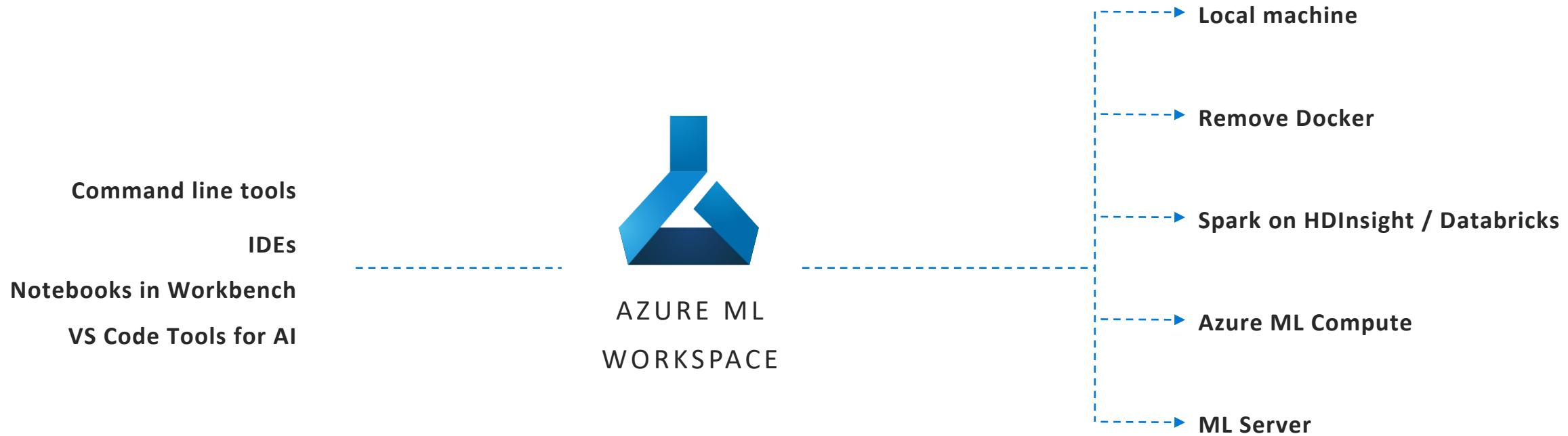


Key Vault



App. Insights

Experiment Everywhere

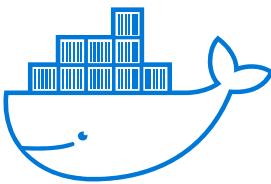


Deploy Everywhere



AZURE ML

MODEL MANAGEMENT



DOCKER

- ▶ Single node deployment (cloud/on-prem)
- ▶ Azure Container Service
Azure Kubernetes Service
- ▶ Azure IoT Edge
- ▶ Microsoft ML Server
- ▶ Spark clusters
- ▶ SQL Server

Demos

Let's Connect

Twitter: @SaschaDittmann

GitHub: @SaschaDittmann

...

Facebook: @DataDrivenDev



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