Import azureml-sdk

Helping you from Scripting to Production

Amy Boyd - Cloud Developer Advocate AI/ML
@AmyKateNicho

Microsoft

"Azure ML can help me track my ML projects progress"

"Azure ML makes it simpler to leverage cloud compute resources"

"I don't have to be a containers expert to deploy my models using Azure ML"

Import azureml-sdk

The Platform that can help you from Scripting to Production

Build it Yourself

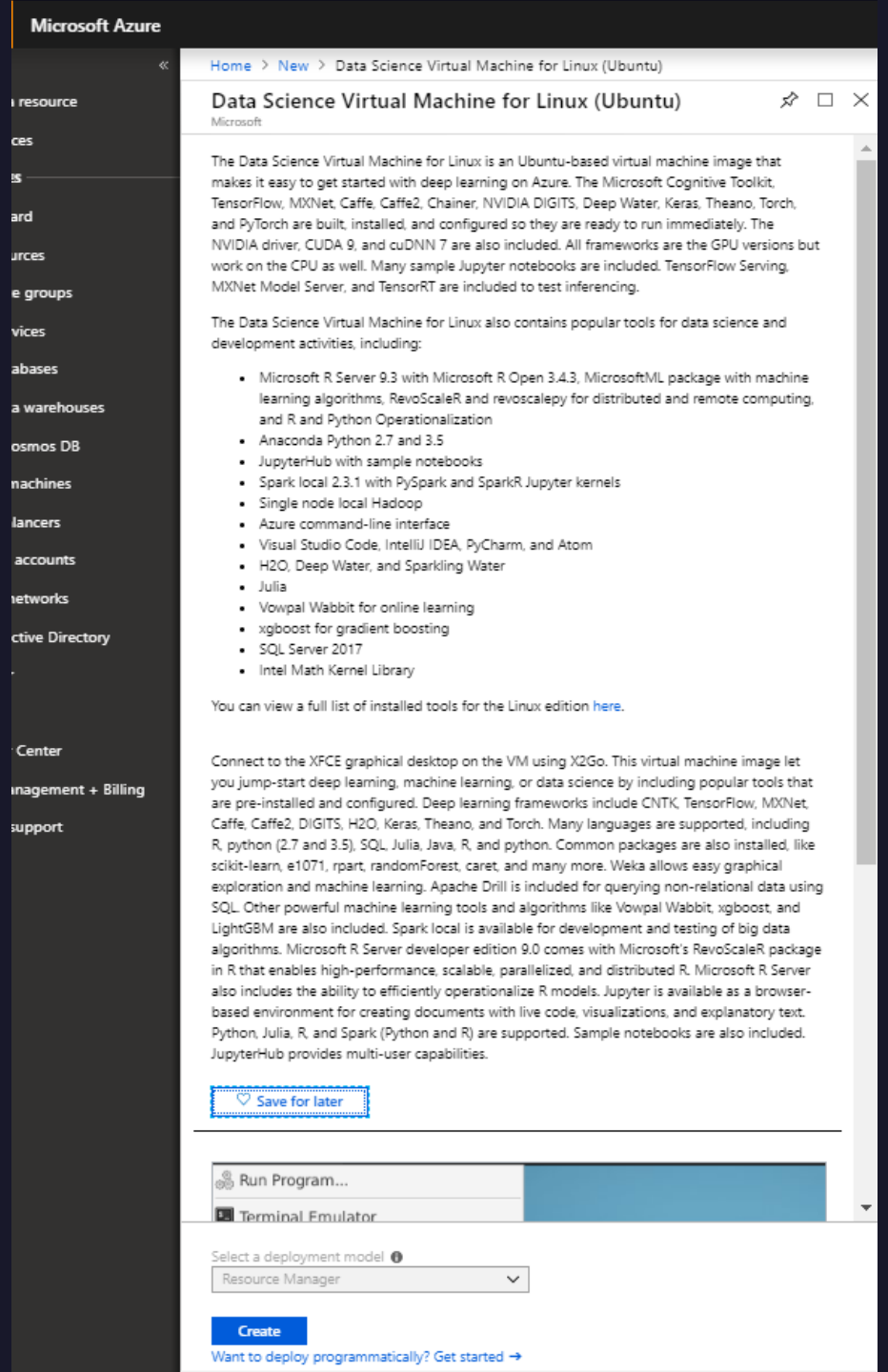
https://aka.ms/azureml-sdk-fashion

@AmyKateNicho

Azure Passes:
visit the site below

Create:

Data Science Virtual Machine for Linux(Ubuntu)



Azure AI

AI apps & agents

Azure Bot Service
Azure Cognitive Services

Machine learning

Azure Databricks
Azure Machine Learning

Knowledge mining

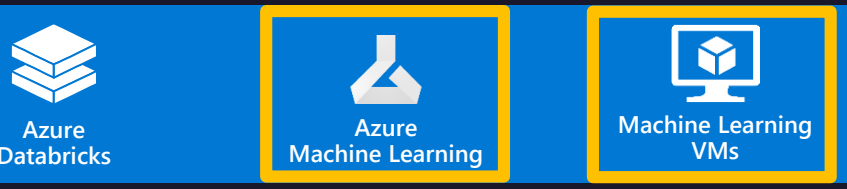
Azure Cognitive Search

Machine Learning on Azure

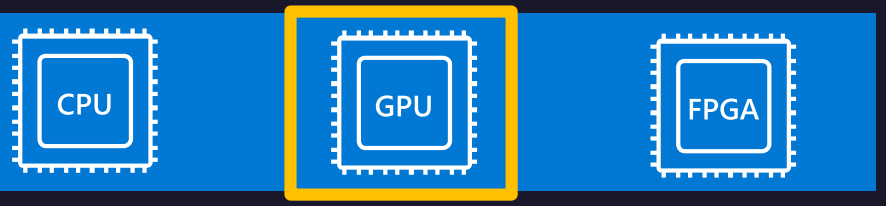
Sophisticated pretrained models
To simplify solution development

Popular frameworks
To build advanced deep learning solutions

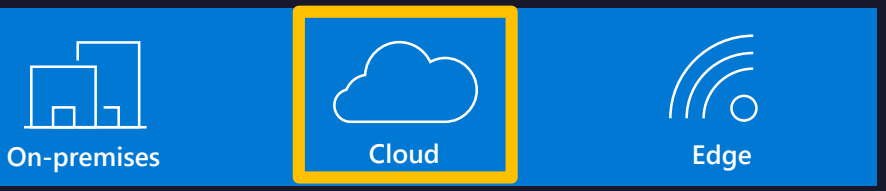
Productive services
To empower data science and development teams



Powerful infrastructure
To accelerate deep learning



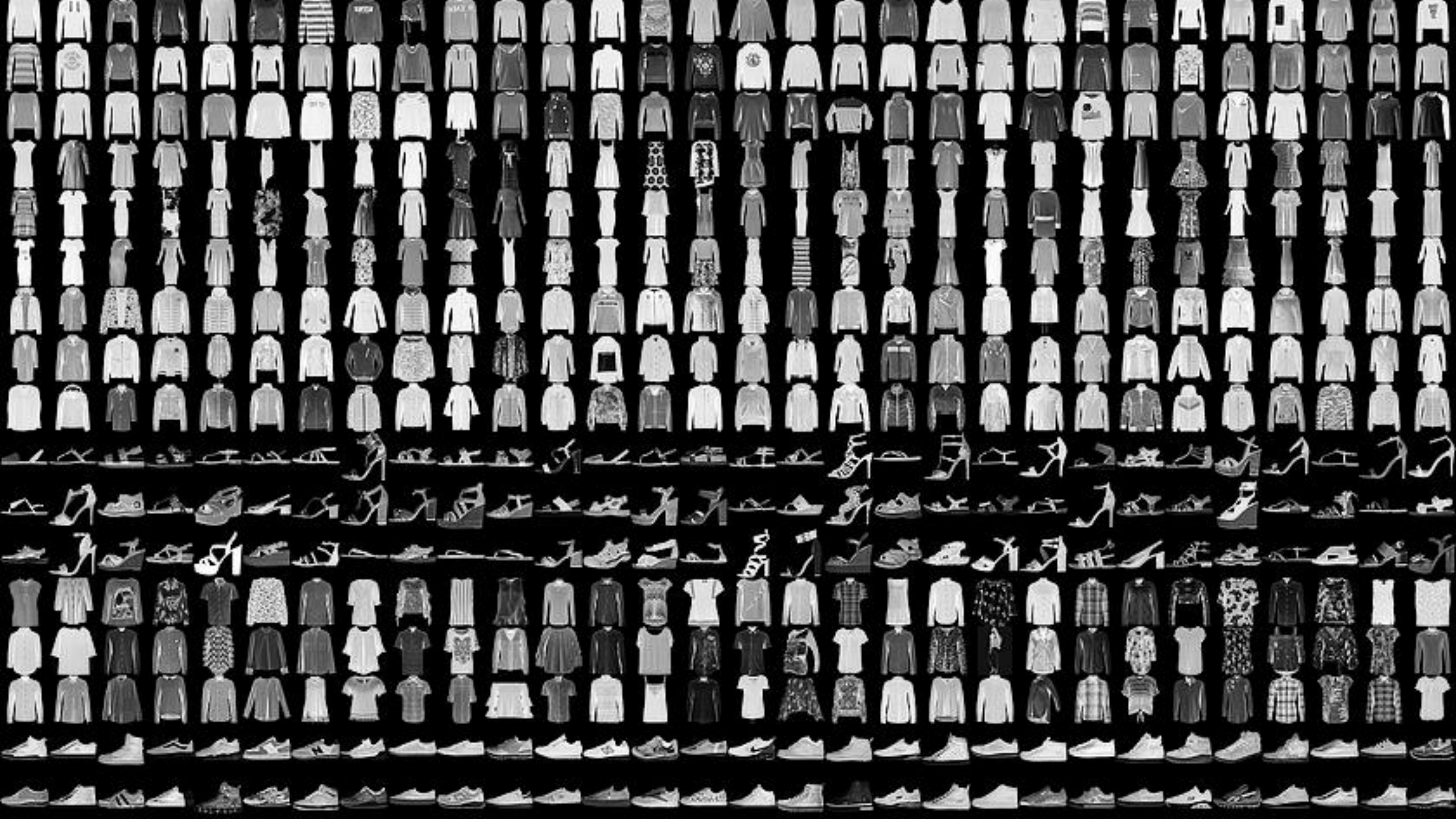
Flexible deployment
To deploy and manage models on intelligent cloud and edge



Zalando

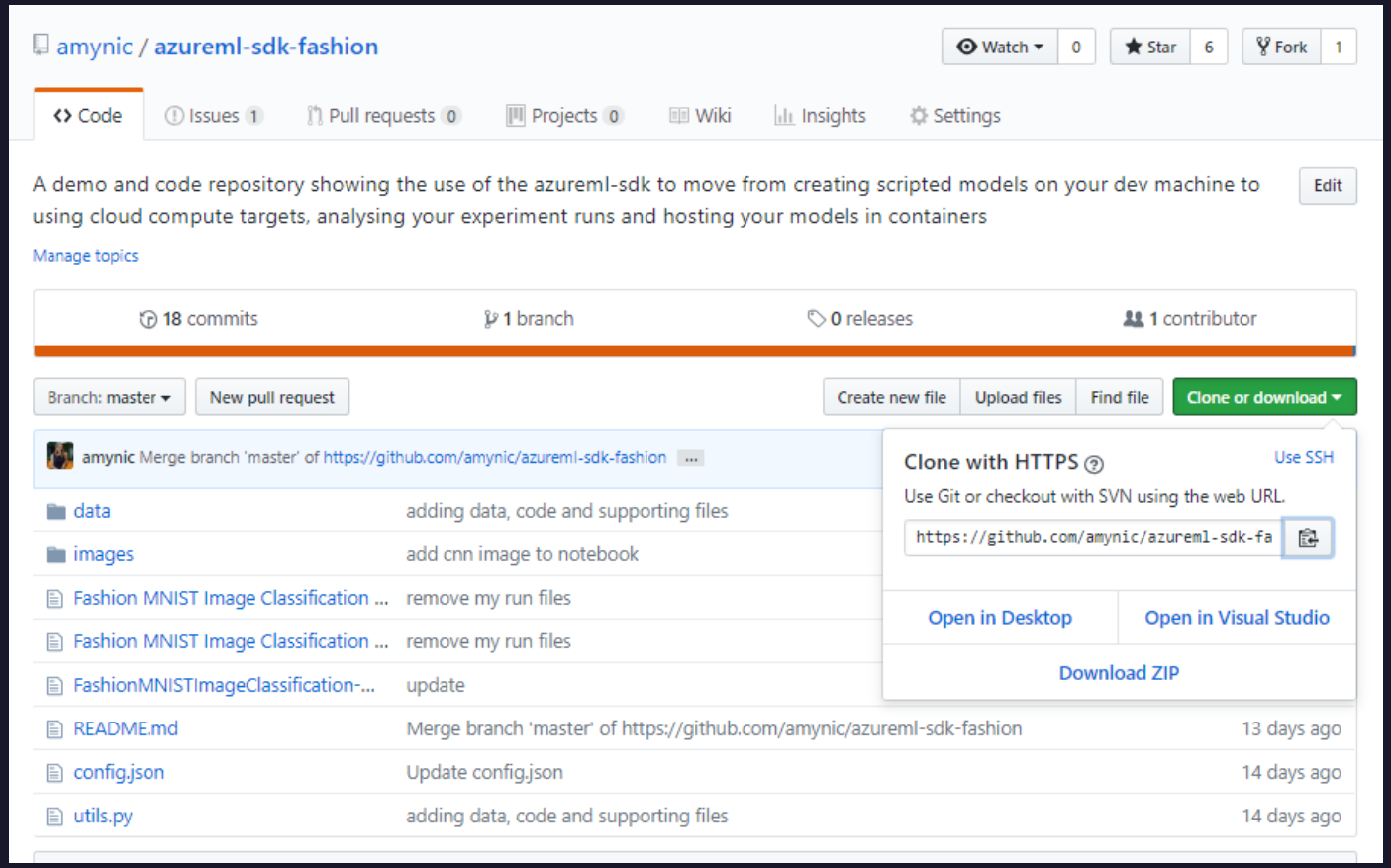
Fashion-MNIST Dataset

https://github.com/zalandoresearch/fashion-mnist



Git Clone Azure ML workshop repo

https://aka.ms/azureml-sdk-fashion



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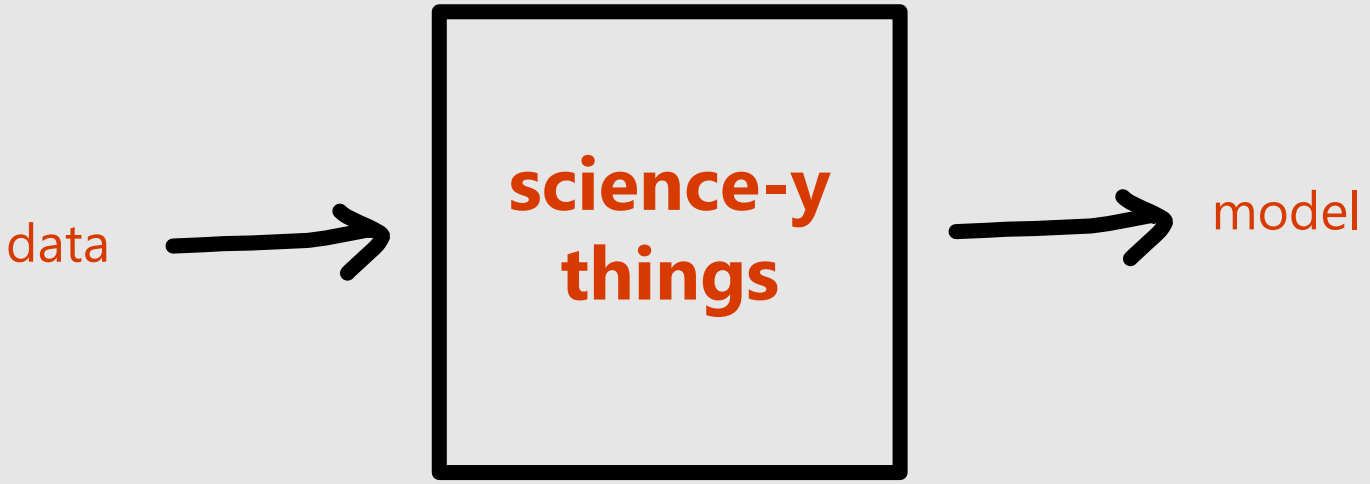
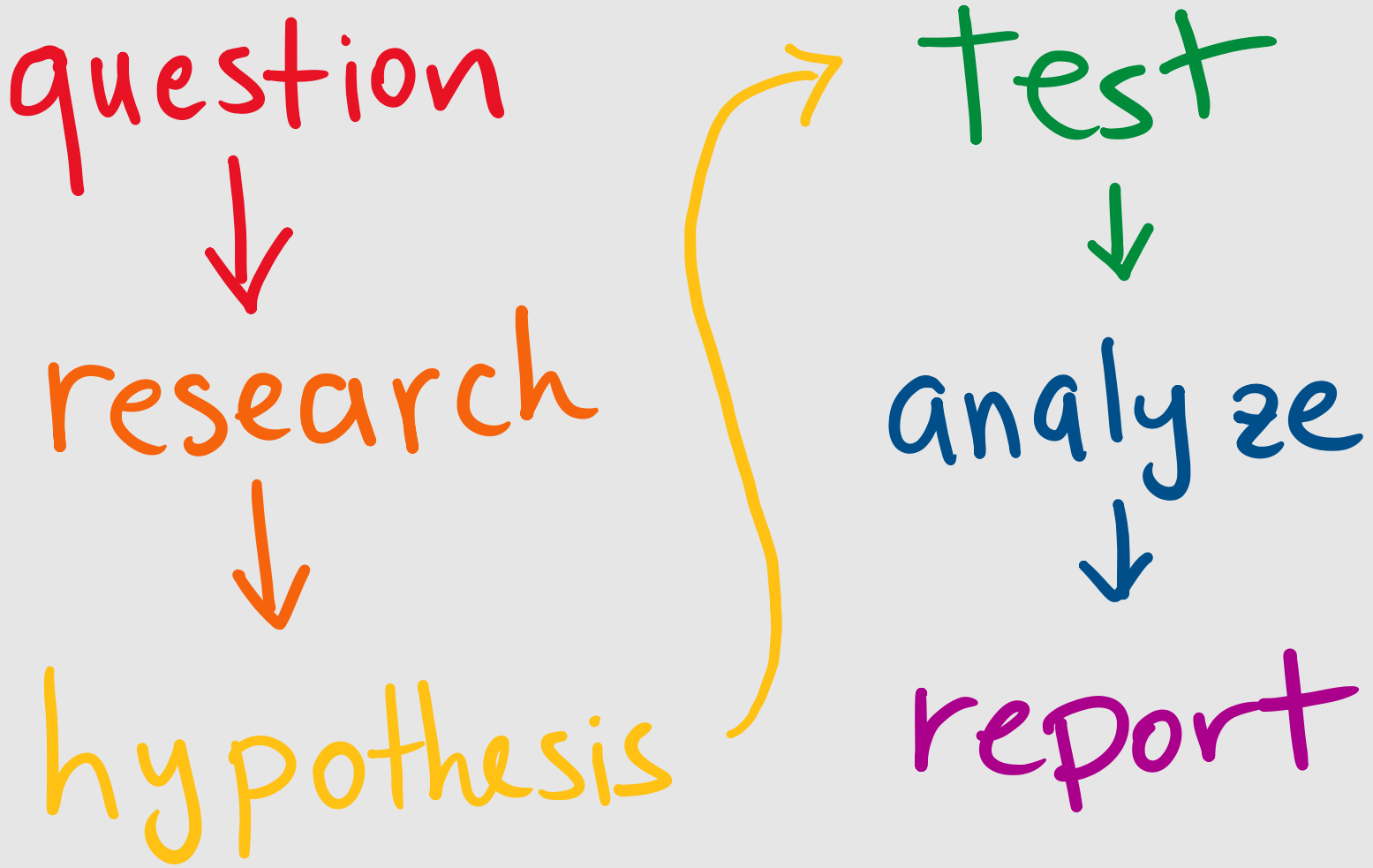
Machine Learning …

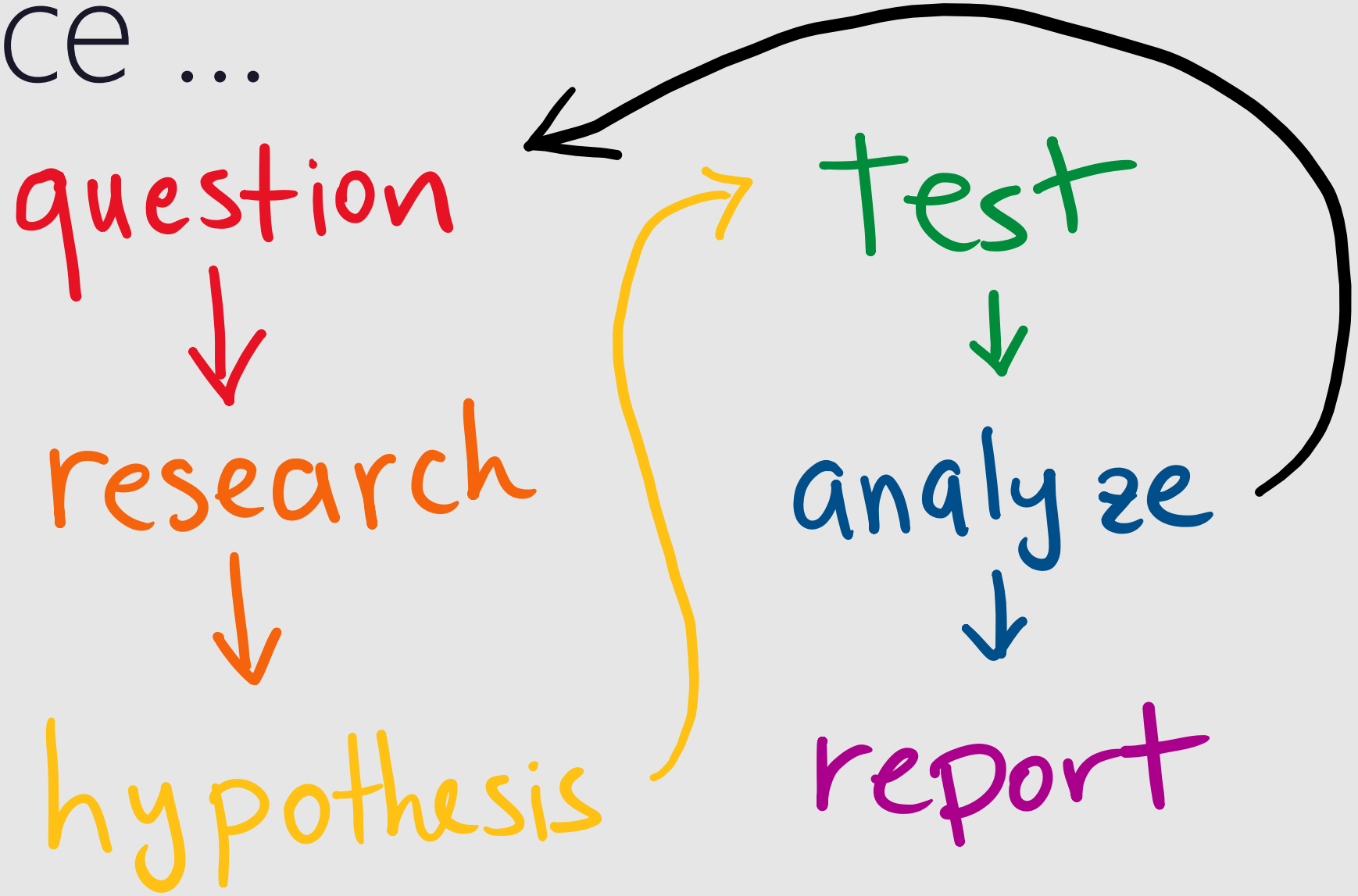
Machine Learning …



Science ...



Science ...



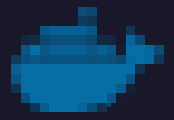
The Workspace - Logical

Workspace

compute

models

experiments



images

data stores

deployment

The Workspace - Physical

Workspace

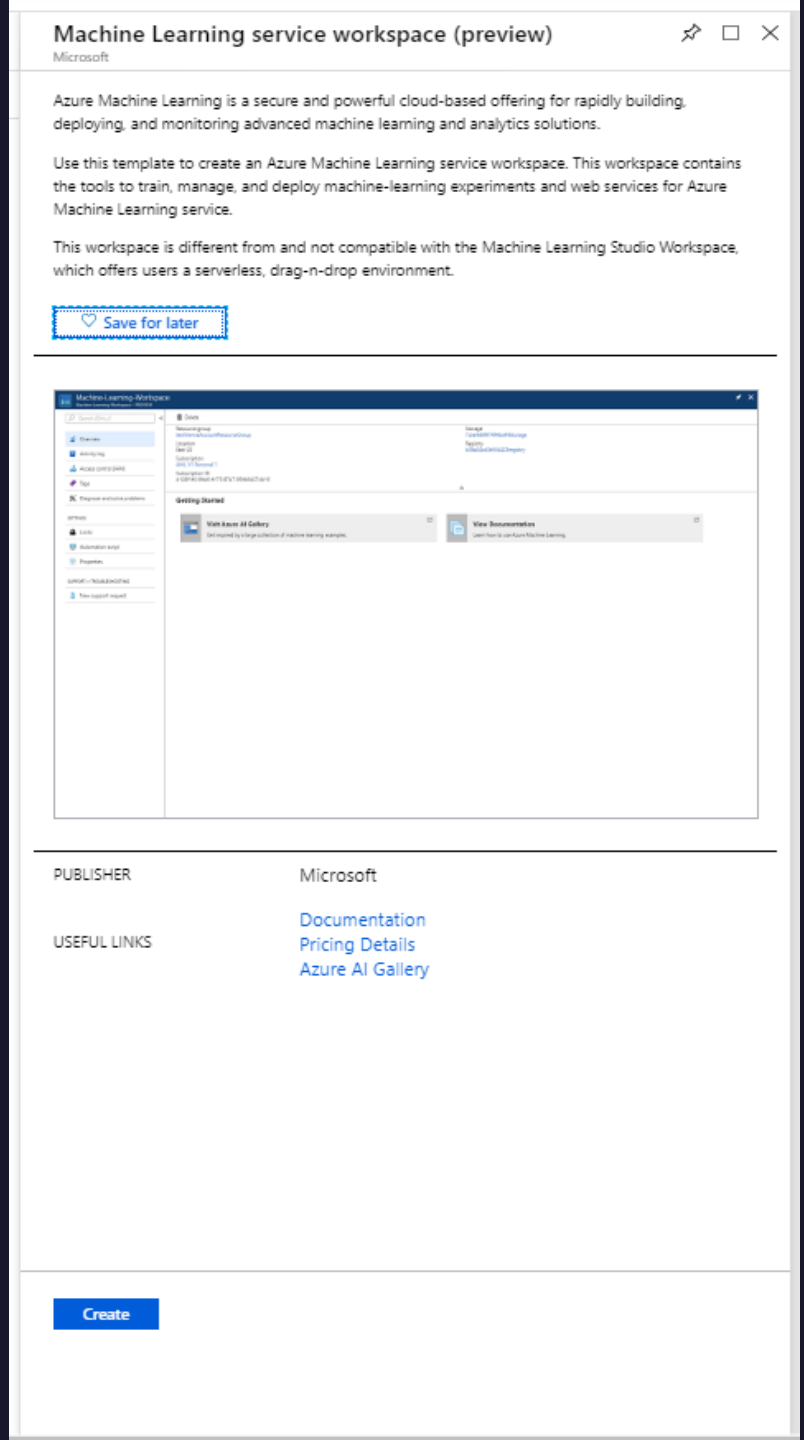
storage

container registry

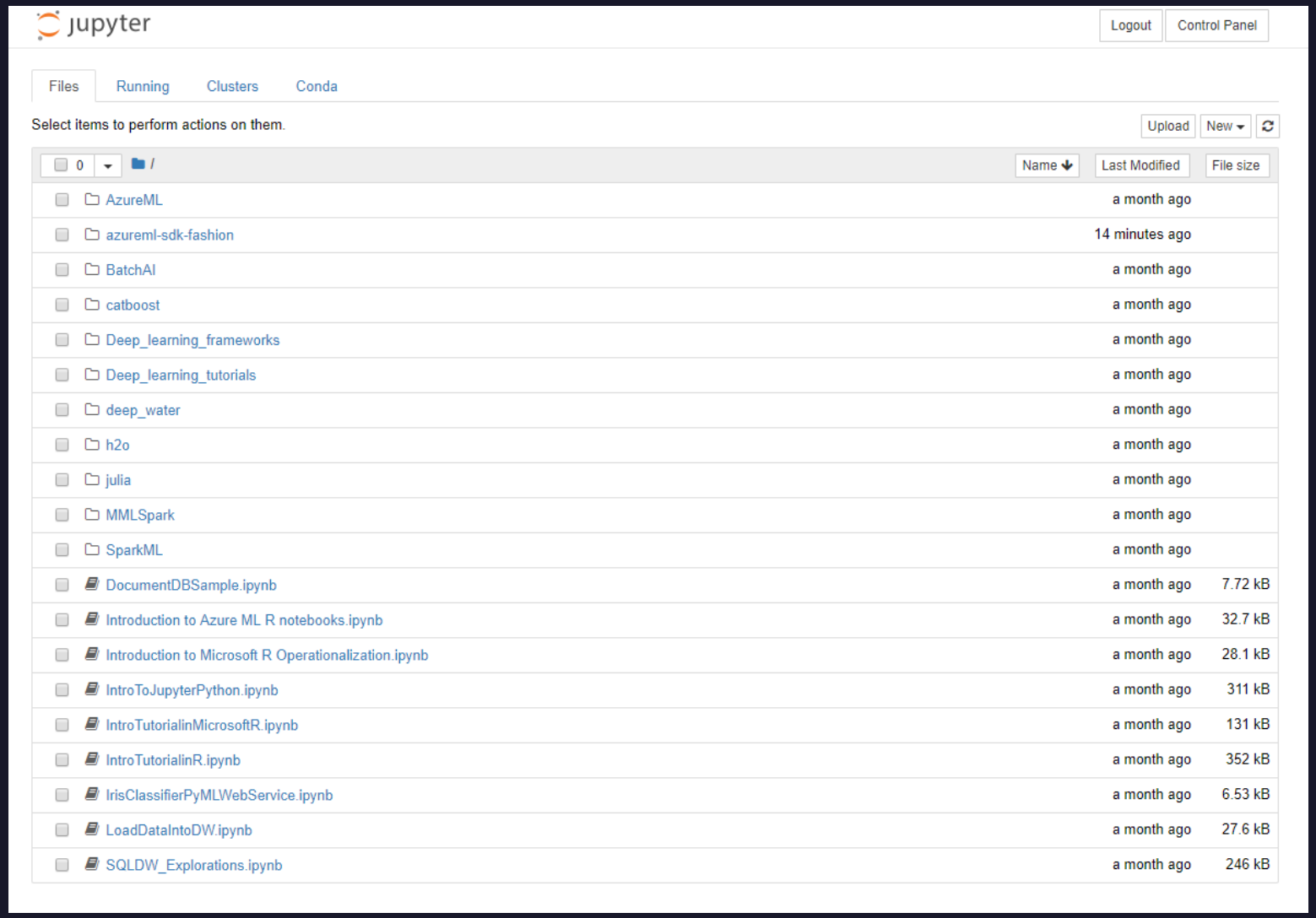
key vault

application insights

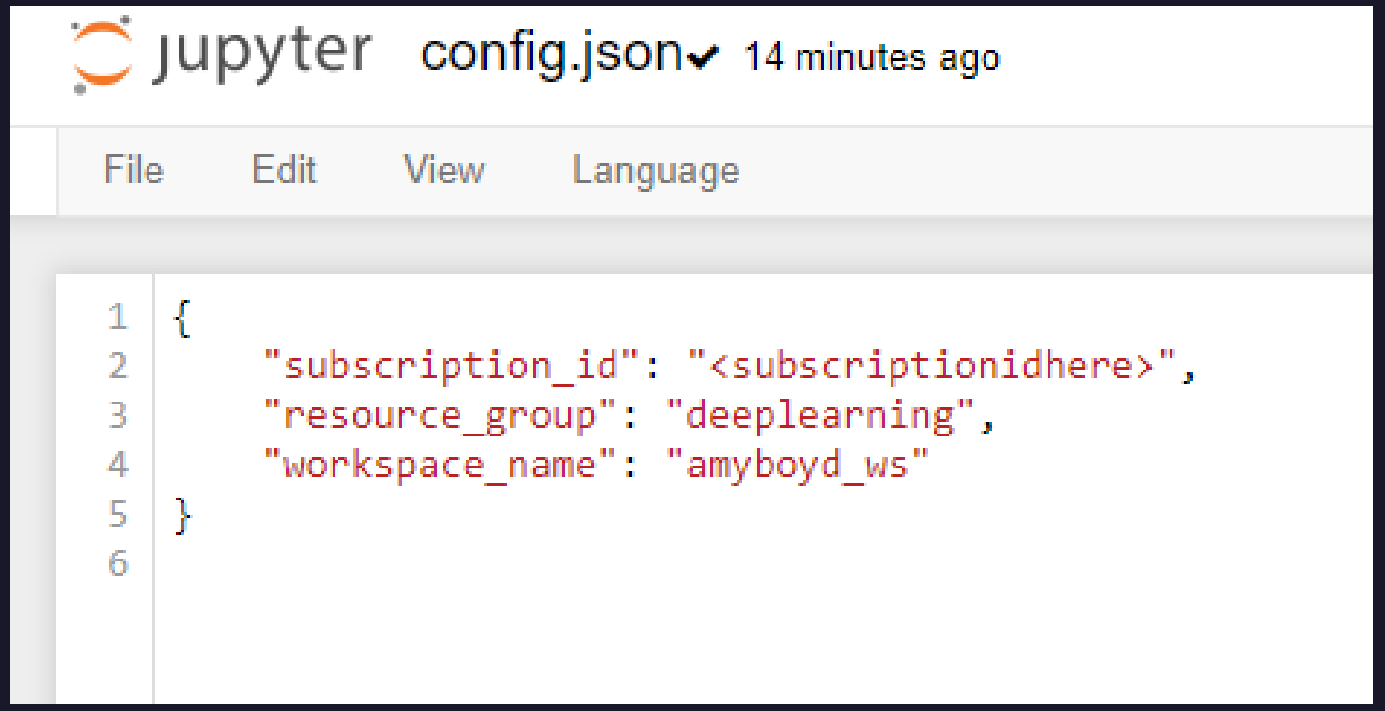
Create:
Azure ML workspace



Login:
Jupyter Notebooks



Update:
Config.json



Workspace

compute

experiments

data stores

models

images

deployment

Demo

Workspaces and Compute

https://aka.ms/azureml-sdk-fashion

Workspace

compute

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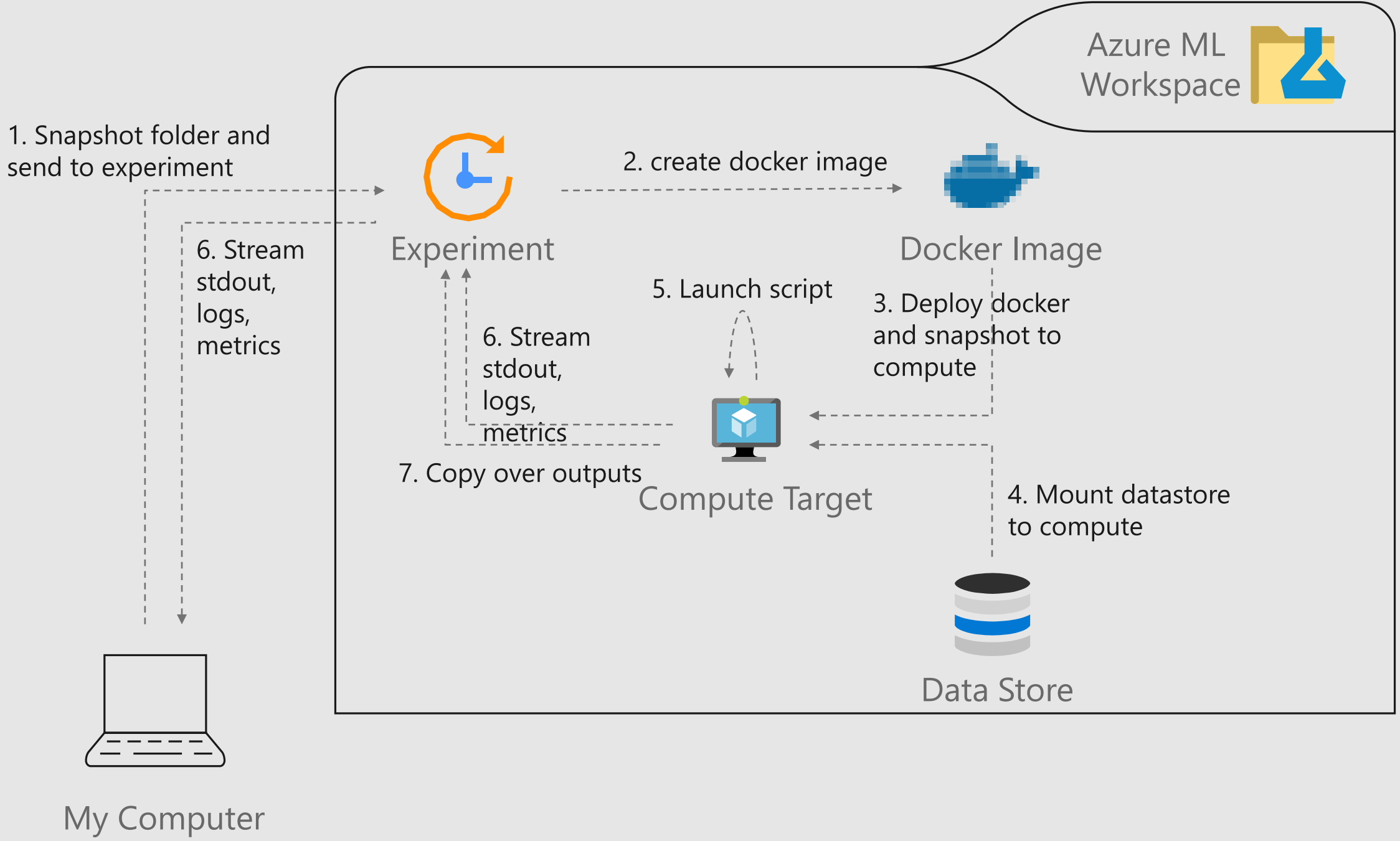
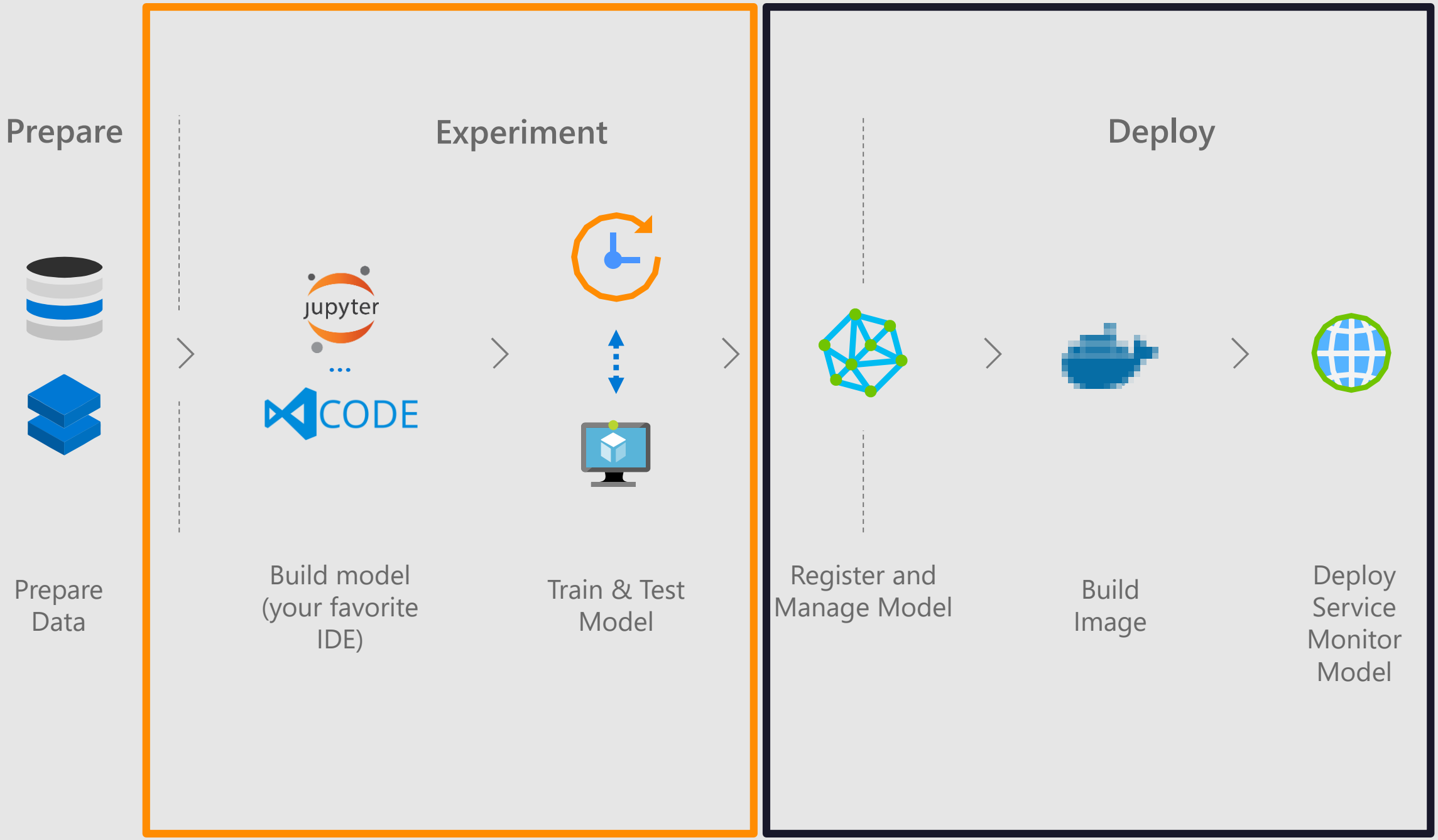

Azure ML Workspace
1. Snapshot folder and send to experiment
Experiment
2. create docker image
Docker Image
6. Stream stdout, logs, metrics
5. Launch script
3. Deploy docker and snapshot to compute
6. Stream stdout, logs, metrics
7. Copy over outputs
Compute Target
4. Mount datastore to compute
Data Store
My Computer

Demo
Datastore

https://aka.ms/azureml-sdk-fashion


Prepare
Experiment
Deploy
jupyter
CODE
Prepare Data
Build model (your favorite IDE)
Train & Test Model
Register and Manage Model
Build Image
Deploy Service Monitor Model

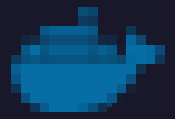
Workspace

compute

experiments

data stores

models



images

deployment

Create an Image

Deploy an Image

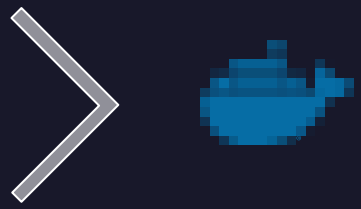
models

+

Scoring file.py

+

Python Environment



images

+

Azure Kubernetes Service (AKS)

or

Azure Container Instance

deployment

Demo

Deploy your model

https://aka.ms/azureml-sdk-fashion

The Workspace - Logical

Workspace

compute

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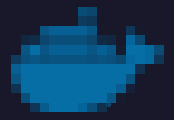

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Azure ML SDK: Key Takeaways

- Azure ML can help you track your ML projects progress
- Azure ML makes it simpler to leverage cloud compute resources
- I don't have to be a containers expert to deploy my models using Azure ML

Azure ML SDK

- Azure ML SDK Fashion Sample:
  https://aka.ms/azureml-sdk-fashion/

- Azure ML Documentation:
  https://docs.microsoft.com/en-us/azure/machine-learning/service/overview-what-is-azure-ml

- Visual Studio Code Tools for AI:
  https://marketplace.visualstudio.com/items?itemName=ms-toolsai.vscode-ai

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