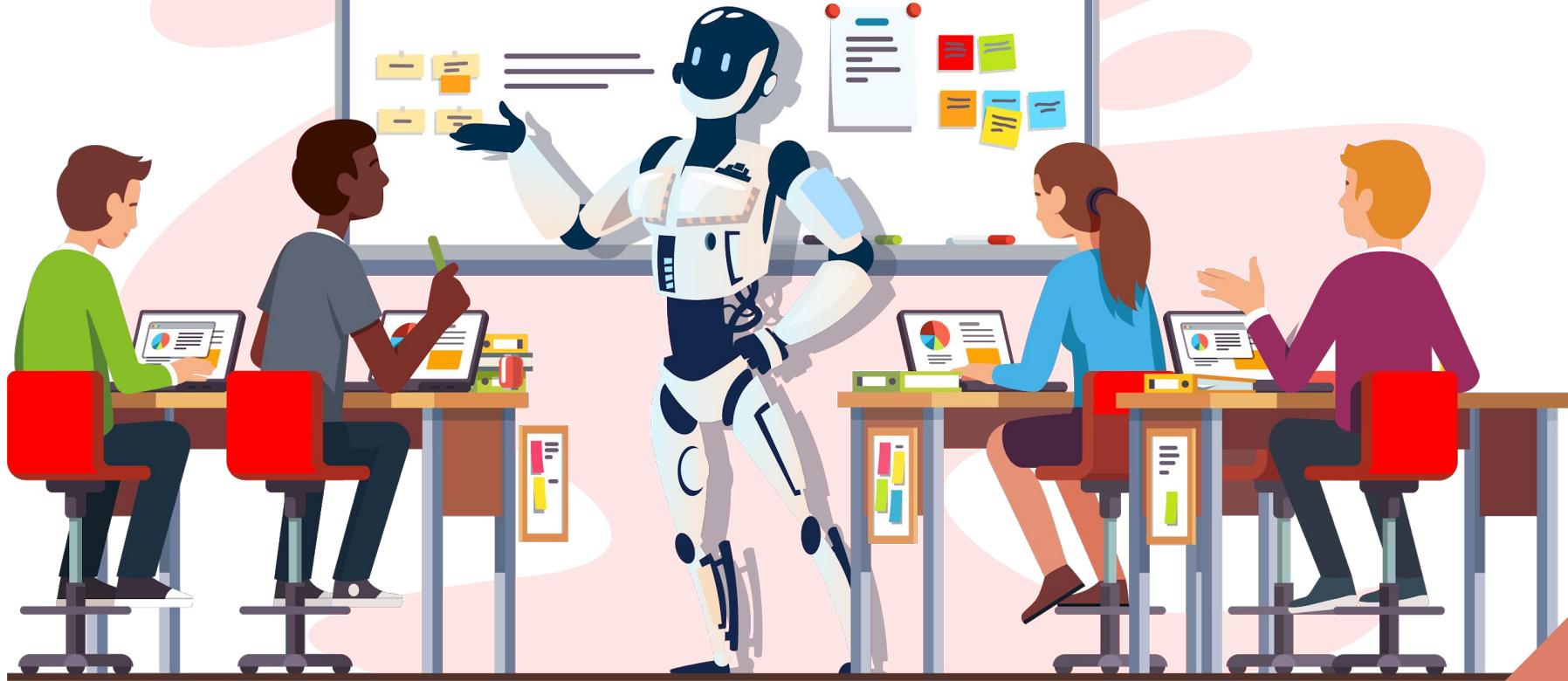


Global AI Nights



Agenda

- 19:15 - 19:30 Connecting with people
- 19:30 - 20:10 Opening + No code using Azure Machine Learning Visual Interface
@Money Yu @Kristen Chan
- 20:15 - 21:15 人臉辨識之真實戰經驗 @小白
- 21:15 Connecting and See you



Global AI Bootcamp

Is that red wine good or bad?

How to use Azure Machine Learning Visual Interface to build ML models
with no code to predict red wine quality.

Kristen Chan

Kristen Chan

Hello !

I am Kristen Chan

Data Scientist

E-Commerce / Telecom

R-Ladies Taipei

Co-Organizer

Microsoft MVP

AI Platform



Kristen Chan

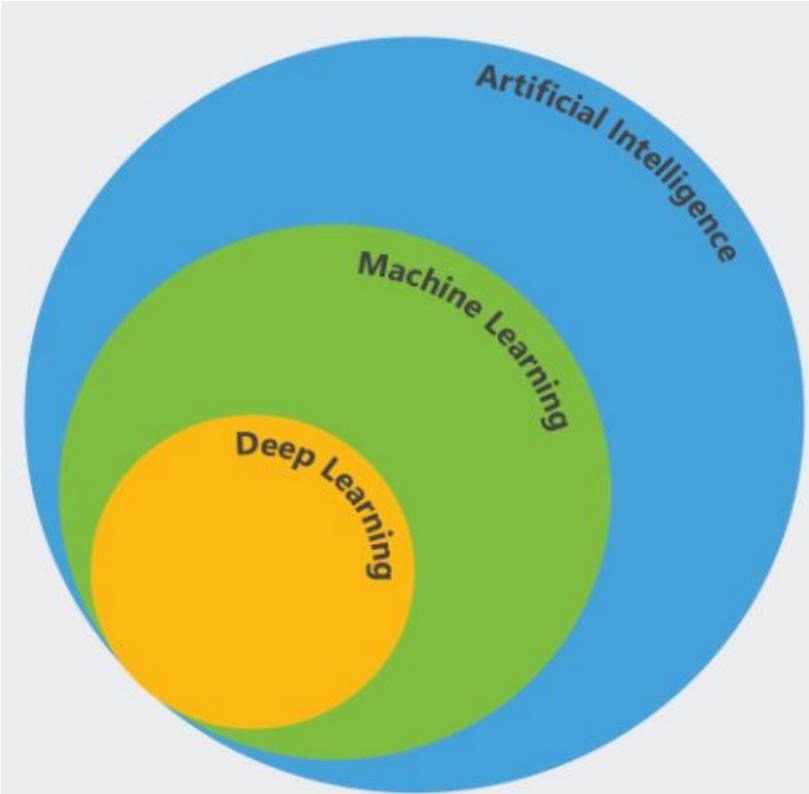
R-Ladies Taipei

- Meetup every last Monday
<https://www.meetup.com/R-Ladies-Taipei>
- FB pages
<https://www.facebook.com/groups/twrladies/>



Overview

What is Machine Learning



Artificial Intelligence

Techniques which allow computers to mimic human intelligence, including use of logic, decision trees, and machine learning (including deep learning).

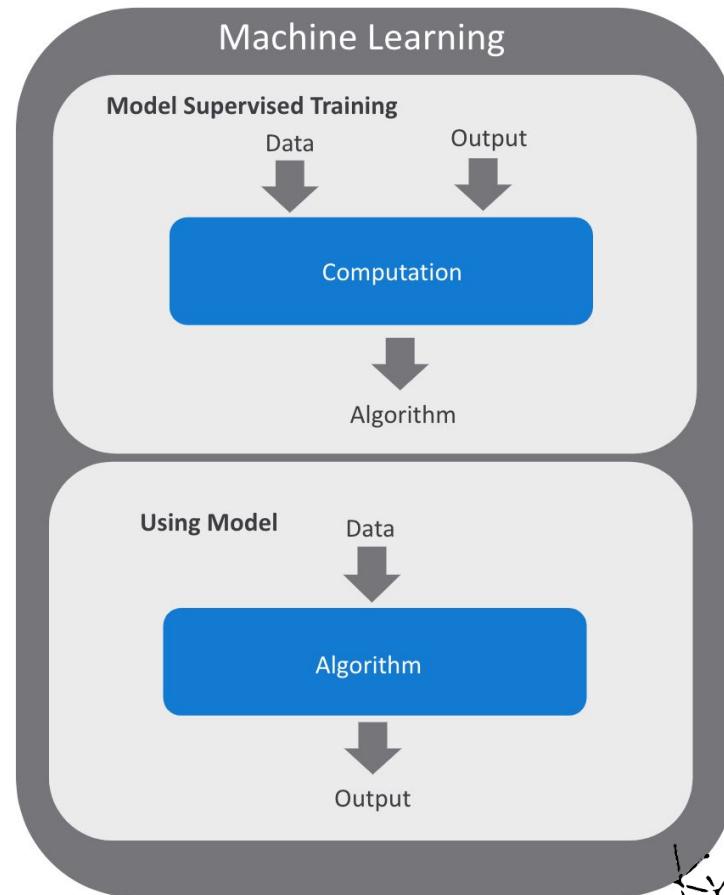
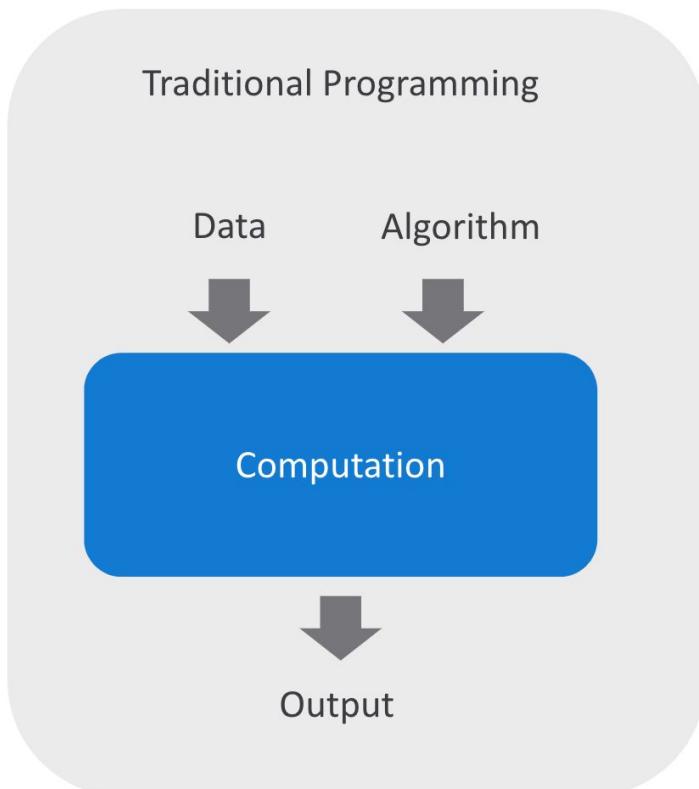
Machine Learning

A subset of artificial intelligence where statistical methods are used to help a system improve at tasks with training and experience. This category includes deep learning.

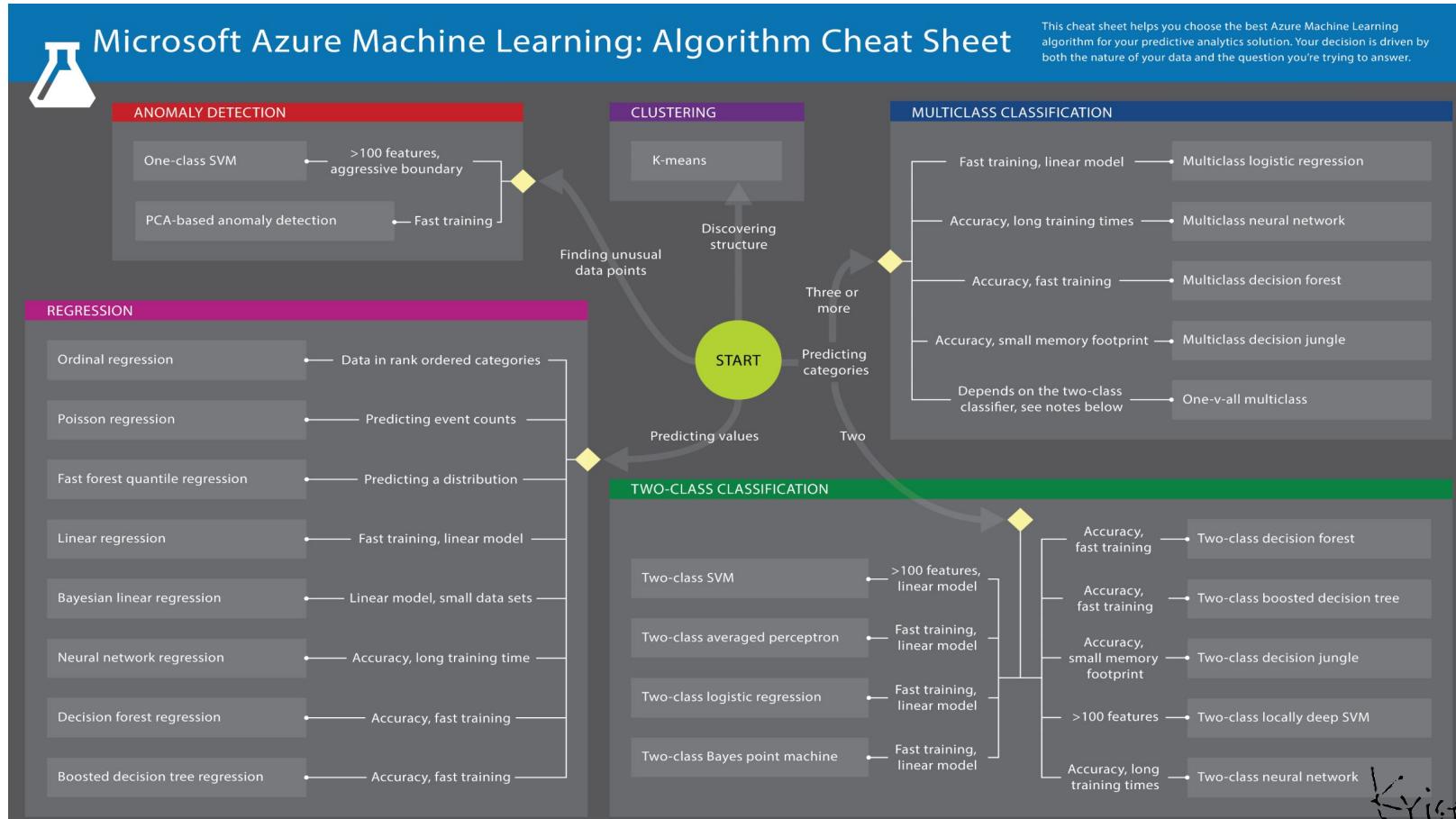
Deep Learning

A subset of machine learning where a system can train itself to perform tasks, including language and image analysis, by using multi-layered neural networks.

Traditional Programming VS. Machine Learning



Algorithm Cheat Sheet



Classification Example

Age	Income	Education	Gender	Housing
61	\$65,000	Moderate	F	Own
42	\$72,000	High	F	Rent
18	\$25,000	Moderate	M	Other
22	\$36,000	Low	M	Rent



Training data

31	\$52,000	High	M	?
----	----------	------	---	---



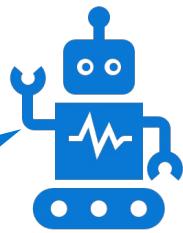
What we know

"features"/"attributes"

Thing to predict

"class"/"label"

Machine Learning / AI tools



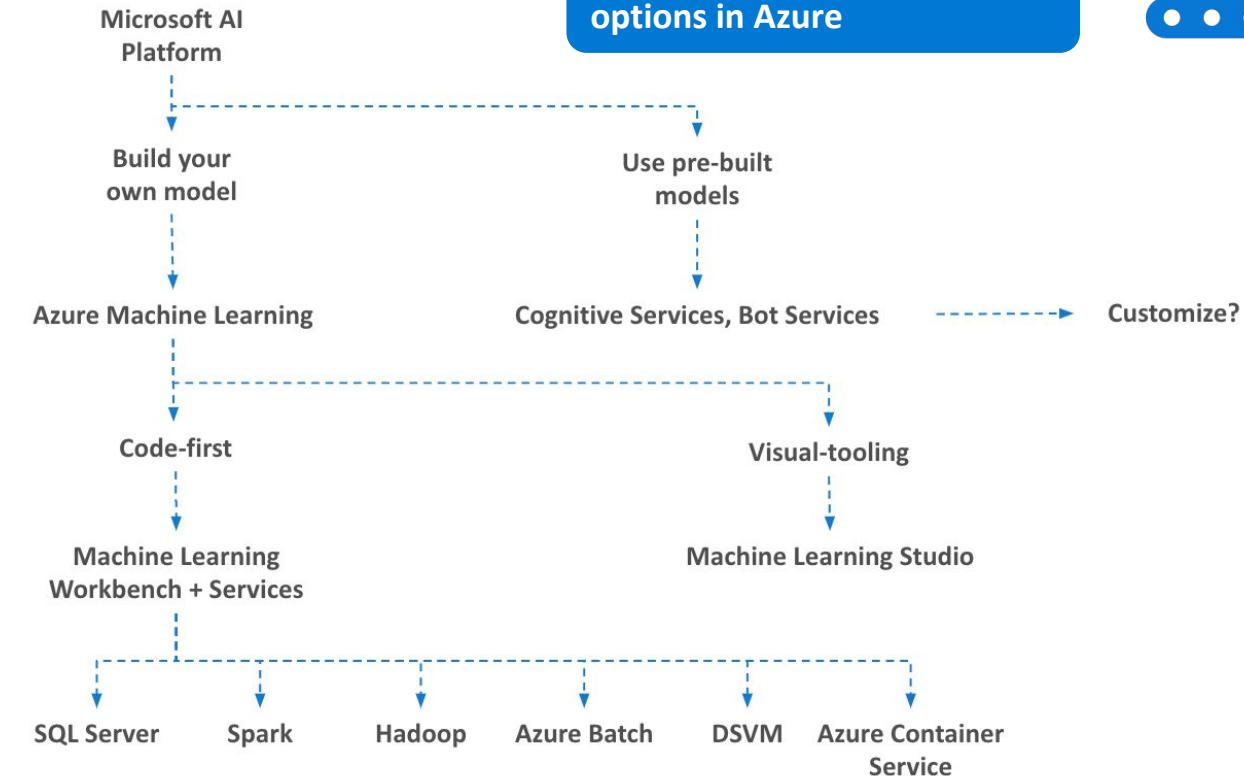
Different machine learning options in Azure

Build your own or consume pre-trained models?

Which experience do you want?

Tools & Services

What engine(s) do you want to use?



Workshop

Azure Machine Learning Visual Interface

Is that red wine good or bad?

什麼是 Azure Machine Learning Visual Interface



Visual interface
for Azure Machine
Learning service

進入 Azure Portal

登入 : <https://portal.azure.com/>



建帳號 : <https://azure.microsoft.com/en-us/free/>

A screenshot of the Microsoft Azure free account sign-up page. The top navigation bar includes links for Overview, Solutions, Products, Documentation, Pricing, Training, Marketplace, Partners, Support, Blog, and More. The main content area features the text "Create your Azure free account today" and "Get started with 12 months of free services". It includes two prominent buttons: "Start free >" and "Or buy now >". Below this is a large image of the Microsoft Azure dashboard, showing various service metrics and charts.

Create Resource in Azure

Microsoft Azure

1 建立資源

2 AI + 機器學習服務

3 Machine Learning 服務工作區

搜尋資源、服務及文件 (G+)

首頁

儀表板

所有服務

我的最愛

所有資源

資源群組

應用程式服務

SQL 資料庫

SQL 資料倉儲

Azure Cosmos DB

虛擬機器

負載平衡器

儲存體帳戶

虛擬網路

Azure Active Directory

監視

Advisor

資訊安全中心

成本管理 + 計費

說明 + 支援

搜尋 Marketplace

開始使用

最近建立

AI + 機器學習服務

分析

區塊鏈

計算

容器

資料庫

開發人員工具

DevOps

身分識別

整合

物聯網

媒體

混合實境

管理工具

網路

軟體即服務 (SaaS)

Security

Machine Learning 服務工作區

Web App Bot

快速入門教學課程

電腦視覺

快速入門教學課程

臉部

快速入門教學課程

文字分析

快速入門教學課程

語言理解

快速入門教學課程

Bing 搜尋 v7

快速入門教學課程

Ubuntu Server 18.04 LTS

深入了解

Kristen Chan 15

Create Resource in Azure

The screenshot shows the Microsoft Azure portal interface. On the left is a dark sidebar with various service icons and links. The main area shows a breadcrumb path: 首頁 > 新增 > Machine Learning 服務工作區. The title is 'Machine Learning 服務工作區' with a '建立' (Create) button. Below is a form with tabs: * 主要, 標籤, * 檢閱. The '主要' tab is active, showing fields for: 工作區名稱 (GlobalAINight), 訂用帳戶 (Visual Studio Enterprise), 資源群組 ((新增) GlobalAINight), 新建 (Create), and 位置 (美國西部). A note below says: '為您的方便起見，下列資源會自動新增至工作區 (視區域可用性): Azure 儲存體、Azure Application Insights 和 Azure Key Vault。' To the right, a green callout box lists three steps:

- 輸入工作區名稱
e.g. GlobalAINight
- 新增一個資源群組
e.g. GlobalAINight
- 選擇機器位置
e.g. 美國西部

At the bottom is a blue '評論及建立' (Review + Create) button.

Create Resource in Azure

<input type="checkbox"/>	 GlobalAINight	Machine Learning 服務工作區
<input type="checkbox"/>	 globalainight1734961975	金鑰保存庫
<input type="checkbox"/>	 globalainight2736086586	Application Insights
<input type="checkbox"/>	 globalainight8241269597	儲存體帳戶

總共會建立出這四個 resource

Launch Azure Machine Learning Visual Interface

The screenshot shows the Microsoft Azure portal interface. On the left, the sidebar lists various services and resources. A pink circle with the number '1' highlights the '所有資源' (All Resources) section, which contains a list of services like GlobalAINight, Notebook VM, and Visual Studio Code. Another pink circle with the number '2' highlights the '視覺化介面' (Visual Interface) option under the '所有資源' section.

Microsoft Azure

1 首頁 > 所有資源 > GlobalAINight

GlobalAINight
Machine Learning 服務工作區

搜尋 (Ctrl + F)

資源群組 : GlobalAINight
位置 : West US
訂用帳戶 : Visual Studio Enterprise
訂用帳戶識別碼 : 4b17375d-57de-4803-a920-a7446a41ca4f

儲存空間 : globalainight8241269597
登錄 : ...
金鑰保存庫 : globalainight1734961975
Application Insights : globalainight2736086586

下載 config.json 刪除

概觀

活動記錄

存取控制 (IAM)

標籤

診斷並解決問題

製作 (預覽)

自動化機器學習

Notebook VM

視覺化介面

開始使用範例 Notebook (預覽)

建立新的自動化機器學習模型 (預覽)

使用視覺化介面建置模型 (預覽)

檢視文件

在 GitHub 檢視更多範例

檢視論壇

快速入門

資源群組

所有服務

我的最愛

所有資源

資源群組

應用程式服務

SQL 資料庫

SQL 資料倉儲

Azure Cosmos DB

虛擬機器

負載平衡器

儲存體帳戶

虛擬網路

Azure Active Directory

監視

Advisor

資訊安全中心

成本管理 + 計費

說明 + 支援

設定

屬性

Launch Azure Machine Learning Visual Interface

The screenshot shows the Microsoft Azure portal interface. On the left, there is a sidebar with various service icons and names. In the center, the main content area displays the 'GlobalAINight - 視覺化介面' workspace. The top navigation bar includes a search bar, a refresh icon, a notifications icon (with 2 notifications), a gear icon, a question mark icon, and a smiley face icon.

The main content area has a title '視覺化介面 (預覽)' and a sub-section '視覺化介面的功能'. It lists several features with checkmarks:

- ✓ 拖放功能可建置機器學習模型
- ✓ 模型定型沒有資料大小或計算容量的限制
- ✓ 功能強大的內建 Python 支援
- ✓ 按一下即可部署 Web 服務
- ✓ 豐富且成長快速的模組支援

A large pink circle with the number '3' is overlaid on the '啟動視覺化介面' (Launch Visual Interface) button, which is highlighted with a pink border. Below the button is another button labeled '檢視文件' (View files).

The sidebar on the left contains the following items:

- 建立資源
- 首頁
- 儀表板
- 所有服務
- 我的最愛
- 所有資源
- 資源群組
- 應用程式服務
- SQL 資料庫
- SQL 資料倉儲
- Azure Cosmos DB
- 虛擬機器
- 負載平衡器
- 儲存體帳戶
- 虛擬網路
- Azure Active Directory
- 監視
- Advisor
- 資訊安全中心
- 成本管理 + 計費
- 說明 + 支援

The main content area also includes sections for '資產' (Assets) and '設定' (Settings), each with their own list of items.

Launch Azure Machine Learning Visual Interface

The screenshot shows the Azure Machine Learning Visual Interface. At the top, there is a dark header bar with the text "Visual interface (Preview) for Azure Machine Learning service" on the left, "GlobalAINight (West US)" in the center, and a user profile icon on the right. Below the header is a navigation sidebar on the left with three items: "Experiments" (selected), "Web Services", and "Datasets". The main content area is titled "Experiments" and contains the message "No experiments have been created." At the bottom of the main area, there is a "Delete" button with a trash can icon and a "New" button with a plus sign icon. In the bottom right corner, there is a handwritten signature that appears to read "Krisfen Chan" and the number "20".

Visual interface (Preview) for Azure Machine Learning service

GlobalAINight (West US)

?

?

?

?

Experiments

Web Services

Datasets

No experiments have been created.

+

New

Delete

Krisfen Chan

20

Dataset

The screenshot shows the 'Red Wine Quality' dataset page on the UCI Machine Learning Repository. The page features a background image of a wine glass filled with red wine against a vineyard backdrop. At the top left is a 'Dataset' icon. In the top right corner, there's a button with an upward arrow and the number '470'. Below the title 'Red Wine Quality' is a subtitle: 'Simple and clean practice dataset for regression or classification modelling'. A 'UCI ML' logo is present, followed by the text 'UCI Machine Learning • updated 2 years ago (Version 2)'. Below this, a navigation bar includes tabs for 'Data' (which is underlined), 'Kernels (209)', 'Discussion (7)', 'Activity', and 'Metadata'. To the right of the navigation bar are buttons for 'Download (26 KB)' and 'New Notebook', along with a vertical ellipsis. Below the navigation bar, there are sections for 'Usability' (rating 8.8), 'License' (Database: Open Database, Contents: Database Contents), and 'Tags' (beginner, natural and physical sciences, computing, education, food and drink). The page also includes sections for 'Description' and 'Context'.

Red Wine Quality
Simple and clean practice dataset for regression or classification modelling

UCI Machine Learning • updated 2 years ago (Version 2)

Data Kernels (209) Discussion (7) Activity Metadata

Download (26 KB) New Notebook

Usability 8.8 License Database: Open Database, Contents: Database Contents Tags beginner, natural and physical sciences, computing, education, food and drink

Description

Context

The two datasets are related to red and white variants of the Portuguese "Vinho Verde" wine. For more details, consult the reference [Cortez et al., 2009]. Due to privacy and logistic issues, only physicochemical (inputs) and sensory (the output) variables are available (e.g. there is no data about grape types, wine brand, wine selling price, etc.).

These datasets can be viewed as classification or regression tasks. The classes are ordered and not balanced (e.g. there are much more normal wines than excellent or poor ones).

Kaggle Dataset

<https://www.kaggle.com/uciml/red-wine-quality-cortez-et-al-2009>

Dataset

1601 lines (1600 sloc) 85.3 KB													Raw	Blame	History	Code	Edit
Search this file...																	
cidity	volatile acidity	citric acid	residual sugar	chlorides	free sulfur dioxide	total sulfur dioxide	density	pH	sulphates	alcohol	quality	qualityBool					
0.7	0	1.9	0.076	11	34	0.9978	3.51	0.56	9.4	5	0						
0.88	0	2.6	0.098	25	67	0.9968	3.2	0.68	9.8	5	0						
0.76	0.04	2.3	0.092	15	54	0.997	3.26	0.65	9.8	5	0						
0.28	0.56	1.9	0.075	17	60	0.998	3.16	0.58	9.8	6	1						
0.7	0	1.9	0.076	11	34	0.9978	3.51	0.56	9.4	5	0						
0.66	0	1.8	0.075	13	40	0.9978	3.51	0.56	9.4	5	0						
0.6	0.06	1.6	0.069	15	59	0.9964	3.3	0.46	9.4	5	0						
0.65	0	1.2	0.065	15	21	0.9946	3.39	0.47	10	7	1						
0.58	0.02	2	0.073	9	18	0.9968	3.36	0.57	9.5	7	1						
0.5	0.36	6.1	0.071	17	102	0.9978	3.35	0.8	10.5	5	0						
0.58	0.08	1.8	0.097	15	65	0.9959	3.28	0.54	9.2	5	0						
0.5	0.36	6.1	0.071	17	102	0.9978	3.35	0.8	10.5	5	0						
0.615	0	1.6	0.089	16	59	0.9943	3.58	0.52	9.9	5	0						
0.61	0.29	1.6	0.114	9	29	0.9974	3.26	1.56	9.1	5	0						
0.62	0.18	3.8	0.176	52	145	0.9986	3.16	0.88	9.2	5	0						
0.62	0.19	3.9	0.17	51	148	0.9986	3.17	0.93	9.2	5	0						
0.28	0.56	1.8	0.092	35	103	0.9969	3.3	0.75	10.5	7	1						
0.56	0.28	1.7	0.368	16	56	0.9968	3.11	1.28	9.3	5	0						

Today Dataset

<https://github.com/cassieview/wine-quality-azure-ml-visual-interface/blob/master/dataset/winequality-red.csv>

新增一個欄位 qualityBool

→ 當 quality > 5 = 1;
當 quality <= 5 = 0

Getting data into Azure Machine Learning Visual Interface

The screenshot shows the Azure Machine Learning Visual Interface. At the top, there's a dark header bar with the text "Visual interface (Preview) for Azure Machine Learning service" on the left, and "GlobalAINight (West US)" with user icons on the right. Below the header is a navigation sidebar on the left with three items: "Experiments" (selected), "Web Services", and "Datasets". The main content area is titled "Experiments" and contains the message "No experiments have been created." In the bottom-left corner of the main area, there's a pink circular badge with the number "1" and a blue button labeled "+ New". At the very bottom center is a small "Delete" icon with the word "Delete" below it.

Visual interface (Preview) for Azure Machine Learning service

GlobalAINight (West US)

?

Experiments

Web Services

Datasets

Experiments

No experiments have been created.

1

+ New

Delete

Getting data into Azure Machine Learning Visual Interface

The screenshot shows the Azure Machine Learning Visual Interface. At the top, there's a navigation bar with icons for help, user profile, and a search bar labeled "GlobalAINight (West US)". Below the bar, there are three main sections: "Experiments" (selected), "Web Services", and "Datasets". The "Experiments" section shows a message "No experiments have been created.". The "Datasets" section has a sub-section titled "New Datasets" with a button "Upload from Local File". A pink circle with the number "2" is overlaid on the "Experiments" icon. A pink box highlights the "Datasets" icon in the sidebar.

Visual interface (Preview) for Azure Machine Learning service

GlobalAINight (West US)

?

Experiments

Web Services

Datasets

Experiments

No experiments have been created.

2

Experiments

New Datasets

X

Datasets

Upload from Local File

KrisfenChian 24

Getting data into Azure Machine Learning Visual Interface

The screenshot shows the Azure Machine Learning Visual Interface. The top navigation bar includes a logo, the text "Visual interface (Preview) for Azure Machine Learning service", the location "GlobalAINight (West US)", and user icons for help, users, and profile.

The left sidebar has three items: "Experiments" (selected), "Web Services", and "Datasets". At the bottom of the sidebar is a "+ New" button.

The main area is titled "Experiments" and displays the message "No experiments have been created." Below this is a modal dialog titled "Upload New Dataset".

The "Select Data to Upload" section contains a "Choose File" button with the text "winequality-red.csv" and a checked checkbox "This is the new version of an existing dataset".

The "New Dataset Name" field contains "winequality-red.csv".

The "Dataset Type" dropdown is set to "Generic CSV File with a header (.csv)".

The "Description (Optional)" field is empty.

At the bottom of the dialog are "Cancel" and "OK" buttons.

At the very bottom center of the page is a "Delete" icon.

In the bottom right corner, there is handwritten text "Krisjen Chan" and the number "25".

Getting data into Azure Machine Learning Visual Interface

The screenshot shows the 'Datasets' page in the Azure Machine Learning service. The left sidebar has a blue background with icons for Experiments, Web Services, and Datasets, with 'Datasets' selected. The main area title is 'Datasets'. Below it are tabs for 'My Datasets' (selected) and 'Samples'. A search bar at the top right says 'Search by name or description'. The data table has columns: Name, Data type, Size, Created on, and Description. One row is highlighted with a red border: 'winequality-red.csv', 'GenericCsv', '85.31 KB', '9/5/2019 4:33:15 PM', and an empty description field. At the bottom are 'Download' and 'Delete' buttons.

Name	Data type	Size	Created on	Description
winequality-red.csv	GenericCsv	85.31 KB	9/5/2019 4:33:15 PM	

GlobalAINight (West US) ?

+ New Download Delete

Create New Experiment

Visual interface (Preview) for Azure Machine Learning service GlobalAINight (West US) ? 🚧 😊

Experiments Web Services Datasets

Datasets

My Datasets Samples

Search by name or description

New Experiments

Blank Experiment

Sample 1 - Regression: Automobile Price Prediction (Basic)
This sample experiment shows how to build a regression model to predict the automobile's price. [learn more](#)

Sample 2 - Regression: Automobile Price Prediction (Compare Algorithm)
This sample experiment shows how to compare two regression models' performance on automobile ... [learn more](#)

Sample 3 - Classification: Credit Risk Prediction (Basic)
This sample demonstrates how to perform binary classification to predict credit risk based on information given o... [learn more](#)

Sample 4 - Classification: Credit Risk Prediction (Cost Sensitive)

Sample 5 - Classification: Customer Relationship Prediction

Sample 6 - Flight Delay Prediction (Execute R Script)

Krisjen Chan 27

Create New Experiment

Visual interface (Preview) for Azure Machine Learning service GlobalAINight (West US) ? ☺ ☺ ☺ ☺ ☺

Wine Quality Model ← 點兩下可以編輯這個實驗的名字

To create your experiment, drag and drop datasets and modules here

Drag Items Here

Properties

Experiment Properties

Status code InDraft
Compute target None

Summary

Description

Quick Help

+ New

Run History Save Save As Discard Changes Run Set Up Web Service

KyisenChian 28

Create New Experiment

Visual interface (Preview) for Azure Machine Learning service

GlobalAINight (West US) ? Properties

Wine Quality Model In draft

Search experiment items

Saved Datasets

My Datasets

winequality-red.csv (1)

Samples

Data Format Conversions

Data Input and Output

Data Transformation

Machine Learning

Python Language Modules

R Language Modules

Web Service

按住往右拖

Mini Map

winequality-red.csv (1)

Run History Save As Discard Changes Run Set Up Web Service

+ New

Properties

winequality-red.csv

Submitted by sinue625
Size 85.3 KB
Format GenericCsv
Created on 9/5/2019 4:33:...

[View dataset](#)

Quick Help

Build the Model

Visual interface (Preview) for Azure Machine Learning service

GlobalAINight (West US) ?

Wine Quality Model In draft

Properties >

▲ Edit Metadata

Column
Selected columns:
Launch the selector tool to make a selection

Edit columns

Data type
Unchanged

Categorical
Unchanged

Fields
Unchanged

New column names

Quick Help
Edits metadata associated with columns in a dataset
(more help...)

Search experiment items

Saved Datasets
My Datasets
Samples

Data Format Conversions

Data Input and Output

▲ Data Transformation
Manipulation

- Add Columns
- Add Rows
- Clean Missing Data
- Edit Metadata**
- Join Data
- Remove Duplicate Rows
- Select Columns in Data...

Sample and Split

Scale and Reduce

Machine Learning

Python Language Modules

按住往右拖

Mini Map

winequality-red.csv

Edit Metadata 1

Run History Save Discard Changes Run Set Up Web Service

Kristen Chan 30

Build the Model

Visual interface (Preview) for Azure Machine Learning service GlobalAINight (West US) ? Properties >

Wine Quality Model In draft

Search experiment items

Saved Datasets

- My Datasets
- Samples

Data Format Conversions

Data Input and Output

Data Transformation

- Manipulation
 - Add Columns
 - Add Rows
 - Clean Missing Data
 - Edit Metadata
 - Join Data
 - Remove Duplicate Rows
 - Select Columns in Data...
- Sample and Split
- Scale and Reduce
- Machine Learning
- Python Language Modules

winequality-red.csv dataset (GenericCsv)

Edit Metadata Results dataset (Dataset)

Mini Map

Quick Help

Run History Save Discard Changes Run Set Up Web Service + New

Build the Model

Visual interface (Preview) for Azure Machine Learning service GlobalAINight (West US) ? 🤖 😊 🧑

Wine Quality Model In draft

Properties

Column
Selected columns: Column names: qualityBool
[Edit columns](#)

1

Data type
Boolean

3

Allow duplicates and preserve column order in selection

With Rules

Begin With All Columns No Column 2

Include column names qualityBool

將 qualityBool 的資料型態轉成 Boolean

OK

Quick Help

Edits metadata associated with columns in a dataset
(more help...)

Run History Save As Discard Changes Run Set Up Web Service

+ New

Search experiment items

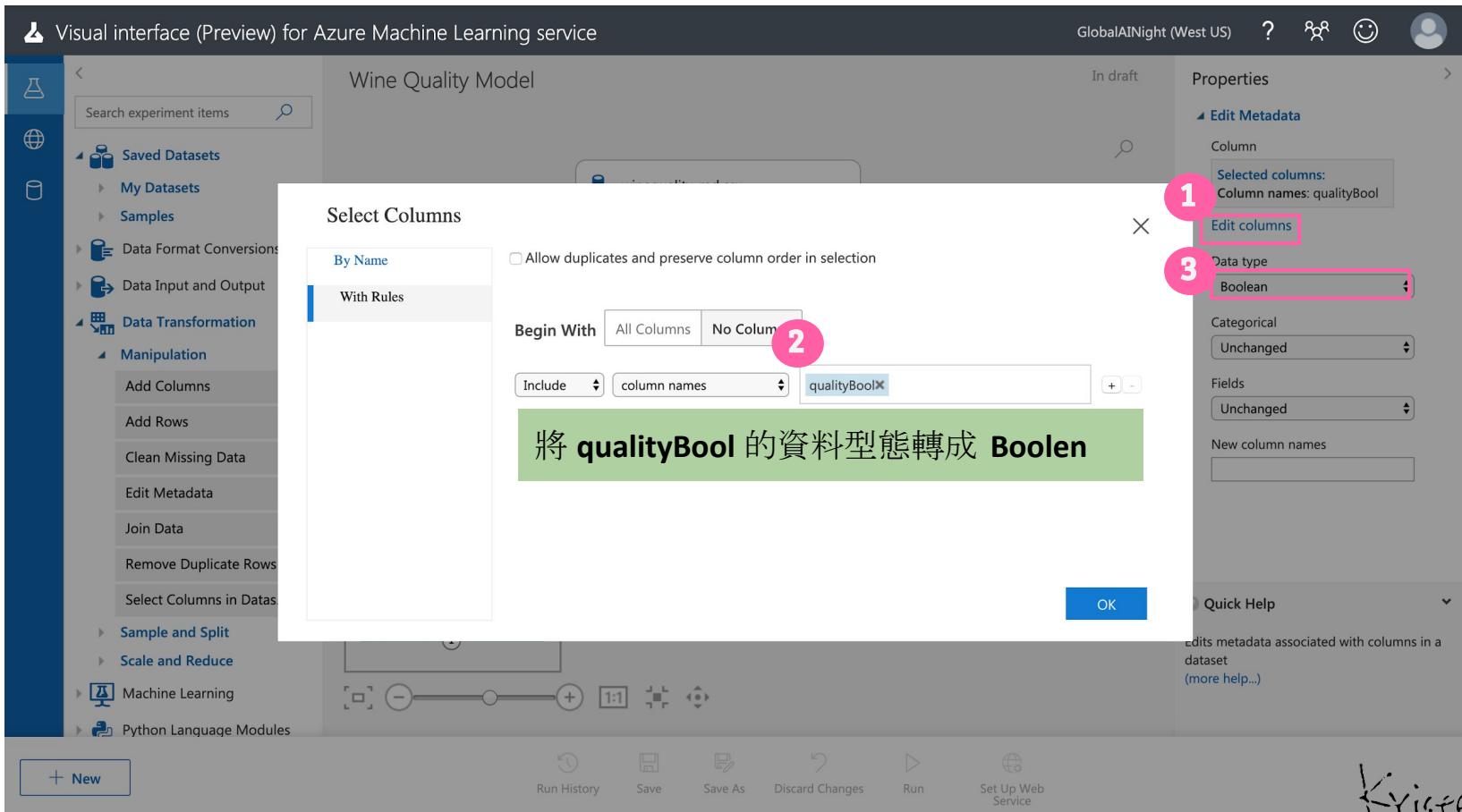
Saved Datasets
My Datasets Samples

Data Format Conversions
Data Input and Output

Data Transformation
Manipulation
Add Columns
Add Rows
Clean Missing Data
Edit Metadata
Join Data
Remove Duplicate Rows
Select Columns in Dataset

Sample and Split
Scale and Reduce

Machine Learning
Python Language Modules



KristenChian 32

The First Run of the Experiment

Visual interface (Preview) for Azure Machine Learning service GlobalAINight (West US) ? Properties >

Wine Quality Model In draft

Search experiment items

Saved Datasets

- My Datasets
- Samples

Data Format Conversions

Data Input and Output

Data Transformation

- Manipulation
 - Add Columns
 - Add Rows
 - Clean Missing Data
 - Edit Metadata
 - Join Data
 - Remove Duplicate Rows
 - Select Columns in Data...
- Sample and Split
- Scale and Reduce
- Machine Learning
- Python Language Modules

winequality-red.csv

dataset (GenericCsv)

Edit Metadata

Run History Save As Discard Changes Set Up Web Service

Run

Properties

Experiment Properties

- Status code: InDraft
- Compute target: None

Summary

Enter a few sentences describing your experiment (up to 140 characters).

Description

Enter the detailed description for your experiment.

Quick Help

```
graph TD; A[winequality-red.csv] --> B[dataset (GenericCsv)]; B --> C[Edit Metadata]
```

A pink box highlights the "Run" button at the bottom center of the interface.

The First Run of the Experiment

Visual interface (Preview) for Azure Machine Learning service

GlobalAINight (West US) ? Properties

Setup Compute Target to Run Experiment

Compute target **1**

Select existing Create new **2**

Compute configuration

We recommend using below predefined configuration to quickly setup your compute.

Configuration	vCPU	RAM	Storage	Node count
Predefined	2	4GB	8GB	2

Not suitable for your experiment? Go to [Azure Portal](#) to create your customized compute target.

New compute name **3**

WineQuality

Note: Compute preparation takes time, may be a few minutes or even longer. Experiment will start to run as soon as the compute resource is available.

Cancel Run

In draft

Properties

Experiment Properties

Status code InDraft
Compute target None

Summary

Enter a few sentences describing your experiment (up to 140 characters).

Description

Enter the detailed description for your experiment.

Quick Help

Run History Save Save As Discard Changes Run Set Up Web Service

 34

The First Run of the Experiment

Visual interface (Preview) for Azure Machine Learning service GlobalAINight (West US) ? Finished running ✓ <

Wine Quality Model

Search experiment items

- Saved Datasets
- Data Format Conversions
- Data Input and Output
- Data Transformation
- Machine Learning
- Python Language Modules
- R Language Modules
- Web Service

winequality-red.csv

Edit Metadata

Download

Save as Dataset

Save as Trained Model

Save as Transform

Visualize

Generate Data Access Code

右鍵, 選 Visualize ; 可以看個欄位分佈

```
graph LR; A[winequality-red.csv] --> B[Edit Metadata]; B --> C[Visualize]
```

+ New

Run History

Save

Save As

Discard Changes

Run

Set Up Web Service

KristenChen 35

The First Run of the Experiment

Visual interface (Preview) for Azure Machine Learning service GlobalAINight (West US) ?

Wine Quality Model>Edit Metadata>Results dataset

Rows 1599 Columns 13

	fixed acidity	volatile acidity	citric acid	residual sugar	chlorides	free sulfur dioxide	total sulfur dioxide	density	pH
View as									
	7.4	0.7	0	1.9	0.076	11	34	0.9978	3.51
	7.8	0.88	0	2.6	0.098	25	67	0.9968	3.2
	7.8	0.76	0.04	2.3	0.092	15	54	0.997	3.26
	11.2	0.28	0.56	1.9	0.075	17	60	0.998	3.16
	7.4	0.7	0	1.9	0.076	11	34	0.9978	3.51
	7.4	0.66	0	1.8	0.075	13	40	0.9978	3.51
	7.9	0.6	0.06	1.6	0.069	15	59	0.9964	3.3
	7.3	0.65	0	1.2	0.065	15	21	0.9946	3.39
	7.8	0.58	0.02	2	0.073	9	18	0.9968	3.36
	7.5	0.5	0.36	6.1	0.071	17	102	0.9978	3.35
	6.7	0.58	0.08	1.8	0.097	15	65	0.9959	3.28
	7.5	0.5	0.36	6.1	0.071	17	102	0.9978	3.35
	5.6	0.615	0	1.6	0.089	16	59	0.9943	3.58
	7.8	0.61	0.29	1.6	0.114	9	29	0.9974	3.26
	9.0	0.62	0.19	2.8	0.176	52	145	0.9986	3.16

To view, select a column in the table.

Run History Save As Discard Changes Run Set Up Web Service

Krisjen Chan 36

Select Feature Columns

Visual interface (Preview) for Azure Machine Learning service GlobalAINight (West US) ?

Wine Quality Model In draft Draft saved at 5:14:09 PM

Properties

Experiment Properties

Start time	9/5/2019 5:02:...
End time	9/5/2019 5:09:...
Status code	InDraft
Status details	None
Compute target	WineQuality

Summary
Enter a few sentences describing your experiment (up to 140 characters).

Description
Enter the detailed description for your experiment.

Quick Help

Search experiment items

Saved Datasets
Data Format Conversions
Data Input and Output
Data Transformation
Edit Metadata

Manipulation

- Add Columns
- Add Rows
- Clean Missing Data
- Edit Metadata**
- Join Data
- Remove Duplicate Rows
- Select Columns in Data...

Sample and Split
Scale and Reduce
Machine Learning
Python Language Modules
R Language Modules

Winequality-red.csv

Edit Metadata

Edit Metadata

Run History Save Save As Discard Changes Run Set Up Web Service

```
graph TD; A[winequality-red.csv] --> B[Edit Metadata]; B --> C[Edit Metadata]
```

+ New

Select Feature Columns

Visual interface (Preview) for Azure Machine Learning service GlobalAINight (West US) ? ☺ 🔍

Wine Quality Model In draft Draft saved at 5:14:09 PM

winequality-red.csv

Properties

Edit Metadata

Selected columns: Launch the selector tool to make a selection

Edit columns

Data type: Unchanged

Categorical: Unchanged

Fields: Unchanged

New column names:

Quick Help: Edits metadata associated with columns in a dataset (more help...)

Search experiment items

Saved Datasets

Data Format Conversions

Data Input and Output

Data Transformation

- Add Columns
- Add Rows
- Clean Missing Data
- Edit Metadata
- Join Data
- Remove Duplicate Rows
- Select Columns in Dataset
- Sample and Split
- Scale and Reduce
- Machine Learning
- Python Language Modules
- R Language Modules

Select Columns

By Name Available Columns Selected Columns

With Rules All Types search columns

fixed acidity
volatile acidity
citric acid
residual sugar
chlorides
free sulfur dioxide
total sulfur dioxide
density
pH
sulphates
alcohol
qualityBool

我們已經選擇使用 **qualityBool**, 就不需要 **quality**

1 columns available 12 columns selected

OK

Run History Save As Discard Changes Run Set Up Web Service

Kyisen Chan 38

Split the Data

Visual interface (Preview) for Azure Machine Learning service GlobalAINight (West US) ?

Wine Quality Model

In draft Saving...

Properties

Split Data

Splitting mode: Split Rows

Fraction of rows in the first output: 0.7

Randomized split

Random seed: 0

Stratified split: False

Quick Help: Partitions the rows of a dataset into two distinct sets
[\(more help...\)](#)

Search experiment items

Saved Datasets

Data Format Conversions

Data Input and Output

Data Transformation

- Manipulation
- Sample and Split**
- Partition and Sample
- Split Data**
- Scale and Reduce
- Normalize Data
- Machine Learning
- Python Language Modules
- R Language Modules
- Web Service

Input

Output

Run History Save As Discard Changes Run Set Up Web Service

+ New



39

Train, Score and Evaluate the Model

Visual interface (Preview) for Azure Machine Learning service GlobalAINight (West US) ? ☺ 🚧

Wine Quality Model

In draft Saving... 🔍

Properties

Experiment Properties

Start time	9/5/2019 5:02:...
End time	9/5/2019 5:09:...
Status code	InDraft
Status details	None
Compute target	WineQuality

Summary
Enter a few sentences describing your experiment (up to 140 characters).

Description
Enter the detailed description for your experiment.

Quick Help

Machine Learning

- Initialize Model
- Classification
 - Multiclass Neural Ne...
 - Two-Class Averaged ...
 - Two-Class Boosted ...
 - Two-Class Decision F...
 - Two-Class Logistic R...
 - Two-Class Neural Ne...
 - Two-Class Support V...
- Regression
 - Neural Network Reg...

Data Transformation

- Manipulation
 - Join Data
- Sample and Split
 - Split Data

Two-Class Logistic Regression

winequality-red.csv

Edit Metadata

Edit Metadata

Split Data

Train Model

Score Model

Evaluate Model

Run History Save As Discard Changes Run Create Predictive Experiment

+ New

```
graph TD; A[winequality-red.csv] --> B[Edit Metadata]; B --> C[Edit Metadata]; C --> D[Two-Class Logistic Regression]; D --> E[Split Data]; E --> F[Train Model]; F --> G[Score Model]; G --> H[Evaluate Model]
```

Krisfen Chan

Train, Score and Evaluate the Model

Visual interface (Preview) for Azure Machine Learning service GlobalAINight (West US) ? ☺

Wine Quality Model In draft Draft saved at 5:23:32 PM

two winequality-red.csv

Properties

Train Model

Label column

Selected columns: Launch the selector tool to make a selection

Edit columns

Select a single column

By Name With Rules

Include: column names qualityBool

OK

Quick Help

Trains a classification or regression model in a supervised manner
(more help...)

+

New

Run History Save As Discard Changes Run Create Predictive Experiment

Kirsten Chan 41

Deploy the Web Service

Visual interface (Preview) for Azure Machine Learning service GlobalAINight (West US) ?

Wine Quality Model Finished running ✓

Properties

Experiment Properties

Start time	9/5/2019 5:29:...
End time	9/5/2019 5:36:...
Status code	Finished
Status details	None
Compute target	WineQuality

Prior Run

Summary
Enter a few sentences describing your experiment (up to 140 characters).

Description
Enter the detailed description for your experiment.

Quick Help

Search experiment items

Saved Datasets
Data Format Conversions
Data Input and Output
Data Transformation
Machine Learning
Python Language Modules
R Language Modules
Web Service

Two-Class Logistic Regression ✓
Edit Metadata ✓
Edit Metadata ✓
Split Data ✓
Train Model ✓
Score Model ✓
Evaluate Model ✓

Create predictive experiment

KrisfenChian 42

Deploy the Web Service

Visual interface (Preview) for Azure Machine Learning service GlobalAINight (West US) ?

Training experiment Predictive experiment >

Wine Quality Model [Predictive Exp.] In draft Draft saved at 5:37:18 PM

Properties

Experiment Properties

Start time	9/5/2019 5:29:...
End time	9/5/2019 5:36:...
Status code	InDraft
Status details	None
Compute target	WineQuality

Summary

Enter a few sentences describing your experiment (up to 140 characters).

Description

Enter the detailed description for your experiment.

Quick Help

Search experiment items

Saved Datasets
Trained Models
Data Format Conversions
Data Input and Output
Data Transformation
Machine Learning
Python Language Modules
R Language Modules
Web Service

Input
Output

Web service input
winequality-red.csv
Edit Metadata
Edit Metadata
Wine Quality Model [trained...]
Score Model
Web service output

Run History Save As Discard Changes Run Deploy Web Service

+ New

Krisfen Chan

Deploy the Web Service

Visual interface (Preview) for Azure Machine Learning service GlobalAINight (West US) ?

Training experiment Predictive experiment Wine Quality Model [Predictive Exp.] Finished running ✓

Properties

Experiment Properties

Start time	9/5/2019 5:40:...
End time	9/5/2019 5:45:...
Status code	Finished
Status details	None
Compute target	WineQuality

Summary
Enter a few sentences describing your experiment (up to 140 characters).

Description
Enter the detailed description for your experiment.

Quick Help

Search experiment items

Saved Datasets
Trained Models
Data Format Conversions
Data Input and Output
Data Transformation
Machine Learning
Python Language Modules
R Language Modules
Web Service

Input
Output

Diagram:

```
graph TD; WSInput[Web service input] --> CSV[winequality-red.csv]; CSV --> EM1>Edit Metadata; EM1 --> EM2>Edit Metadata; EM2 --> Model[Wine Quality Model [trained...]]; Model --> ScoreModel[Score Model]; ScoreModel --> WSOutput[Web service output]
```

Bottom navigation: + New, Run History, Save, Save As, Discard Changes, Run, Deploy Web Service (highlighted with a pink box)

Deploy the Web Service

Visual interface (Preview) for Azure Machine Learning service

GlobalAINight (West US) ? 🌐 😊 🚙

Setup Compute Target to Deploy Web Service

Compute target

Select existing Create new

Please follow the Instruction Doc to create secure compute for deployment. [View Instruction Doc.](#)
You can create compute in Azure Portal as below steps too, but it will not support secure web service and it will be on your risk. [Go to Azure Portal.](#)

1 Select "Add Compute"

Compute

+ Add Compute ⏪ Refresh Delete Detach

There are no computes in this workspace.

2 Define compute settings

For Compute type, choose "Kubernetes Service".
Select the Virtual machine size that fits your needs or keep the default.

Add Compute

* Compute name:
* Compute type: Kubernetes Service
* Kubernetes Service: Create new Use existing
* Region: Pick a region
* Virtual machine size: Standard_D3_v2
* Number of nodes: 3
* Network configuration: Basic

Cancel Deploy

Properties

Experiment Properties

Start time: 9/5/2019 5:40:...
End time: 9/5/2019 5:45:...
Status code: Finished
Status details: None
Compute target: WineQuality

Summary

Enter a few sentences describing your experiment (up to 140 characters).

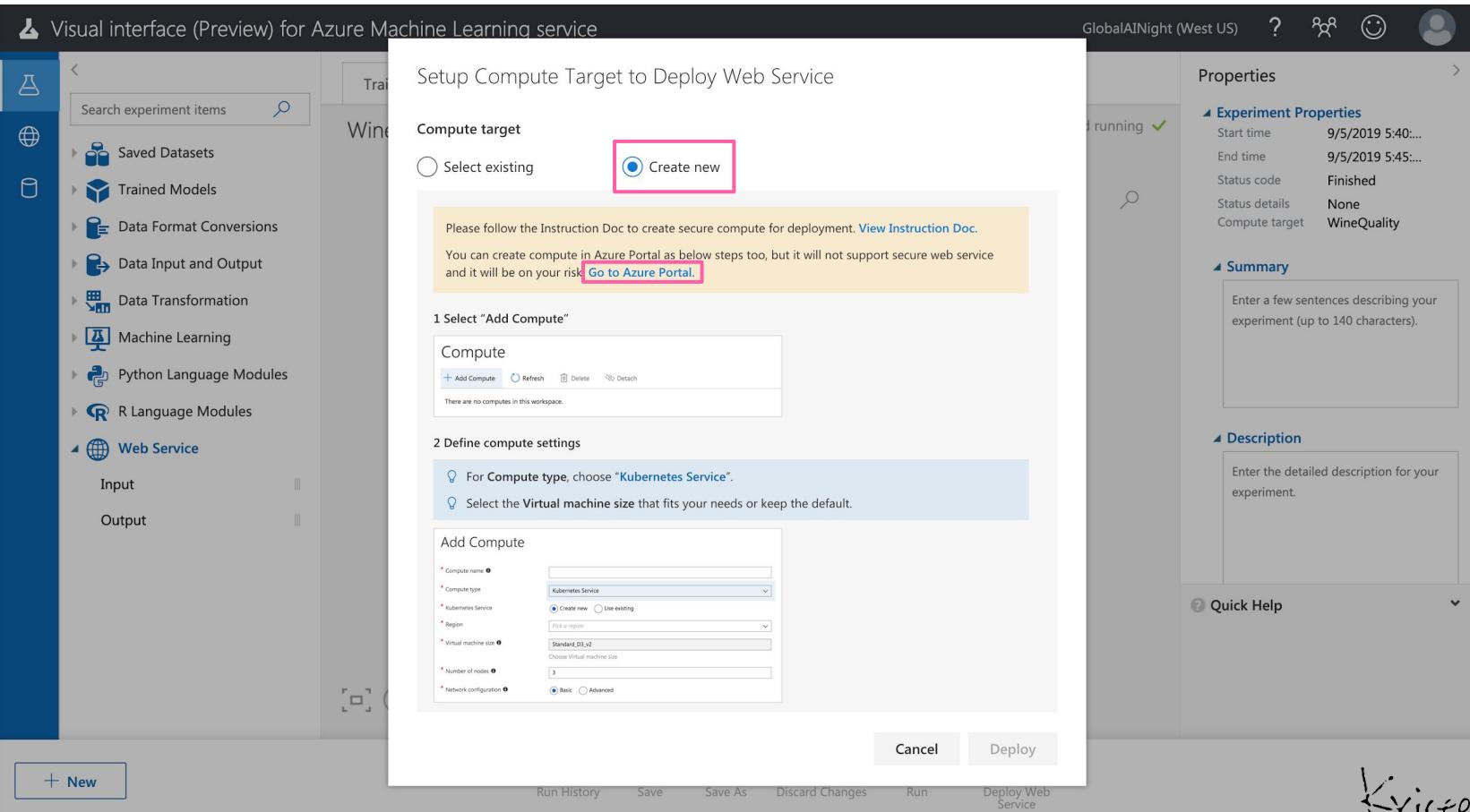
Description

Enter the detailed description for your experiment.

Quick Help

Run History Save Save As Discard Changes Run Deploy Web Service

KrisenChen 45



Deploy the Web Service

Microsoft Azure

首頁 > AI-Night - 計算

AI-Night - 計算
Machine Learning 服務工作區

建立資源 首頁 儀表板 所有服務 我的最愛 所有資源 資源群組 應用程式服務 SQL 資料庫 SQL 資料倉儲 Azure Cosmos DB 虛擬機器 負載平衡器 儲存體帳戶 虛擬網路 Azure Active Directory 監視 Advisor 資訊安全中心 成本管理 + 計費 說明 + 支援 屬性

搜尋資源、服務及文件 (G+/)

搜尋 (Ctrl+ /)

2 實驗 管線 Compute 模型 映像 部署 活動

新增 Compute

Kubernetes Service

Compute 名稱: Test
計算類型: Kubernetes Service
區域: West US 2
虛擬機器大小: Standard_D3_v2
節點數: 3
網路組態: 基本

1 計算

建立 取消

KristenChian 46

Deploy the Web Service

Visual interface (Preview) for Azure Machine Learning service

AI-Night (West US 2) ?

Properties

Experiment Properties

Start time	9/5/2019 6:26:...
End time	9/5/2019 6:28:...
Status code	Finished
Status details	None
Compute target	AINight

Summary

Enter a few sentences describing your experiment (up to 140 characters).

Description

Enter the detailed description for your experiment.

Quick Help

Setup Compute Target to Deploy Web Service

Compute target

Select existing Create new

Existing compute target(s)

Compute name	Node Count	Region	Status
Test	3	West US 2	Succeeded

Note: Compute preparation takes time, may be a few minutes or even longer. Deployment will start as soon as the compute resource is available.

Cancel Deploy

Run History Save Save As Discard Changes Run Deploy Web Service



Deploy the Web Service

Visual interface (Preview) for Azure Machine Learning service

AI-Night (West US 2) ? 🌐 😊 🚙

Experiments Web Services Datasets

Web Services

Search by name

Name	Created on	Last Updated
Wine Quality [Predictive Exp.]	9/5/2019 7:46:40 PM	9/5/2019 7:50:51 PM

+ New

Delete

Deploy the Web Service

Visual interface (Preview) for Azure Machine Learning service

AI-Night (West US 2) ? 🧑‍🤝‍🧑 😊

< Web Services

Wine Quality [Predictive Exp.]

General Test Consume API Doc

Compute target Test

ⓘ This is an insecure web service due to the limitation with your AKS. You can continue to use it but it will be on your risk. It's recommended to follow the Instruction Doc to secure your web service. [View Instruction Doc.](#)

Deployment state Healthy

Operation Status Create - Succeeded - 9/5/2019 7:50:51 PM

Region West US 2

Created on 9/5/2019 7:46:40 PM

Last Updated 9/5/2019 7:50:51 PM

Description No description provided for this web service.

[View deployment](#)

[View experiment snapshot](#)

[View latest experiment](#)

+ New

Delete



Reference

Reference

- Github
 - <https://github.com/cassieview/wine-quality-azure-ml-visual-interface/>