Using Azure Machine Learning Models

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Agenda

Deploying & publishing models
Consuming experiments

Deploying & publishing models

Using web service parameter

An Azure Machine Learning web service is created by publishing an experiment that contains modules with configurable parameters.

In some cases, you may want to change the module behavior while the web service is running.

Web Service Parameters allow you to do this task.

Using web service parameter

A common example is setting up the Import Data module so that the user of the published web service can specify a different data source when the web service is accessed.

Or configuring the **Export Data** module so that a different destination can be specified.

Some examples include changing the number of bits for the Feature Hashing module or the number of desired features for the Filter-Based Feature Selection module.

Using web service parameter

You can set Web Service Parameters and associate them with one or more module parameters in your experiment, and you can specify whether they are required or optional.

The user of the web service can then provide values for these parameters when they call the web service.

How to set and use Web Service Parameters

You define a Web Service Parameter by clicking the icon next to the parameter for a module and selecting "**Set as web service parameter**".

Then, when the web service is accessed, the user can specify a value for the Web Service Parameter and it is applied to the module parameter.

How to set and use Web Service Parameters

You can decide whether to provide a default value for the Web Service Parameter.

If you do, then the parameter is optional for the user of the web service.

If you don't provide a default value, then the user is required to enter a value when the web service is accessed.

Azure AI Gallery

Azure AI Gallery is a community-driven site for discovering and sharing solutions built with Cortana Intelligence Suite.

The Gallery has a variety of resources that you can use ton develop your own analytics solutions.

What can I find in the Gallery?

The Azure AI Gallery contains a variety of resources that you can use to develop your own analytics solutions.

Experiments
The Gallery contains a wide variety of experiments that have been developed in Azure Machine Learning Studio. These range from quick proof-of-concept experiments that demonstrate a specific machine learning technique, to fully-developed solutions for complex machine learning problems.

What can I find in the Gallery?

Jupyter Notebooks
Jupyter Notebooks include code, data visualizations, and documentation in a single, interactive canvas. Notebooks in the Gallery provide tutorials and detailed explanations of advanced machine learning techniques and solutions.

What can I find in the Gallery?

Solutions

Quickly build Cortana Intelligence Solutions from preconfigured solutions, reference architectures, and design patterns. Make them your own with the included instructions or with a featured partner.

What can I find in the Gallery?

Tutorials
A number of tutorials are available to walk you through machine learning technologies and concepts, or to describe advanced methods for solving various machine learning problems.

What can I find in the Gallery?

These basic Gallery resources can be grouped together logically in a couple different ways:

Collections
A collection allows you to group together experiments, APIs, and other Gallery items that address a specific solution or concept.

What can I find in the Gallery?

Industries

The Industries section of the Gallery brings together various resources that are specific to such industries as retail, manufacturing, banking, and healthcare.

Consuming experiments

Consuming a published experiment

With the Azure Machine Learning Web service, an external application communicates with a Machine Learning workflow scoring model in real time.

A Machine Learning Web service call returns prediction results to an external application.

Consuming a published experiment

To make a Machine Learning Web service call, you pass an API key that is created when you deploy a prediction.

The Machine Learning Web service is based of REST, a popular architecture choice for web programming projects.

Consuming a published experiment

Azure Machine Learning has two types of services:

Request-Response Service (RRS)

A low latency, highly scalable service that provides an interface to the stateless models created and deployed from the Machine Learning Studio.

Consuming a published experiment

Batch Execution Service(BES)

An asynchronous service that scores a batch for data records.

Demo
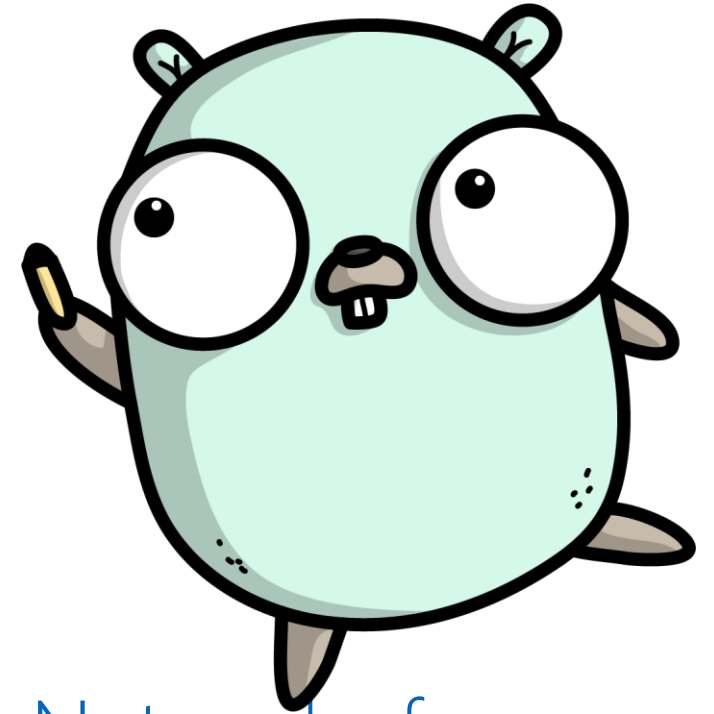Publish a Machine Learning model

Resources

TutorialsPoint

Microsoft Docs

Lecture Collection | Convolutional Neural Networks for Visual Recognition(Spring 2017)

Python Numpy Tutorial

Thank you

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