



Introduction to Azure Machine Learning and integration with SharePoint

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SharePoint Saturday
Madrid



#spsmad



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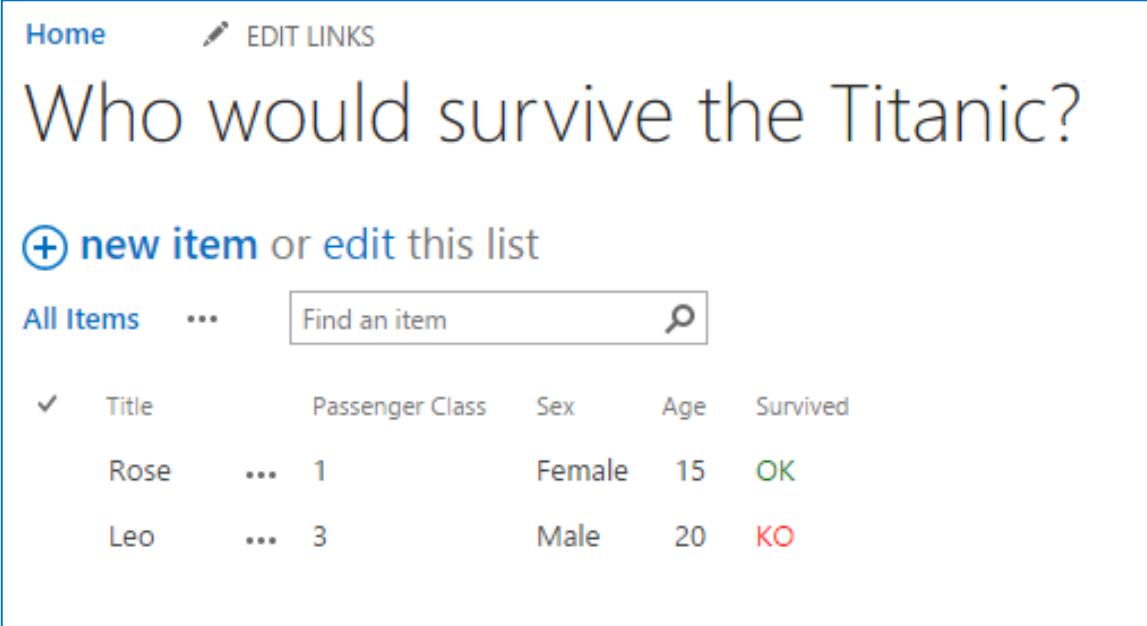


[@ryngwraith](https://twitter.com/@ryngwraith)



Today's session

- Create a Machine Learning Experiment that predicts who would survive the Titanic
- Publish a Web Service
- Consume it using JSLink from SharePoint Online



The screenshot shows a SharePoint list interface. At the top, there are links for 'Home' and 'EDIT LINKS'. The title of the list is 'Who would survive the Titanic?'. Below the title, there is a button with a plus icon and the text 'new item' followed by 'or edit this list'. Underneath, there is a section for 'All Items' with a search bar labeled 'Find an item'. The main content is a table with the following columns: Title, Passenger Class, Sex, Age, and Survived. The table contains two rows of data: one for 'Rose' (Passenger Class 1, Female, Age 15, Survived OK) and one for 'Leo' (Passenger Class 3, Male, Age 20, Survived KO).

✓	Title		Passenger Class	Sex	Age	Survived
	Rose	...	1	Female	15	OK
	Leo	...	3	Male	20	KO

Creating an AML Experiment

Start with a csv, end building a web service to get predictions

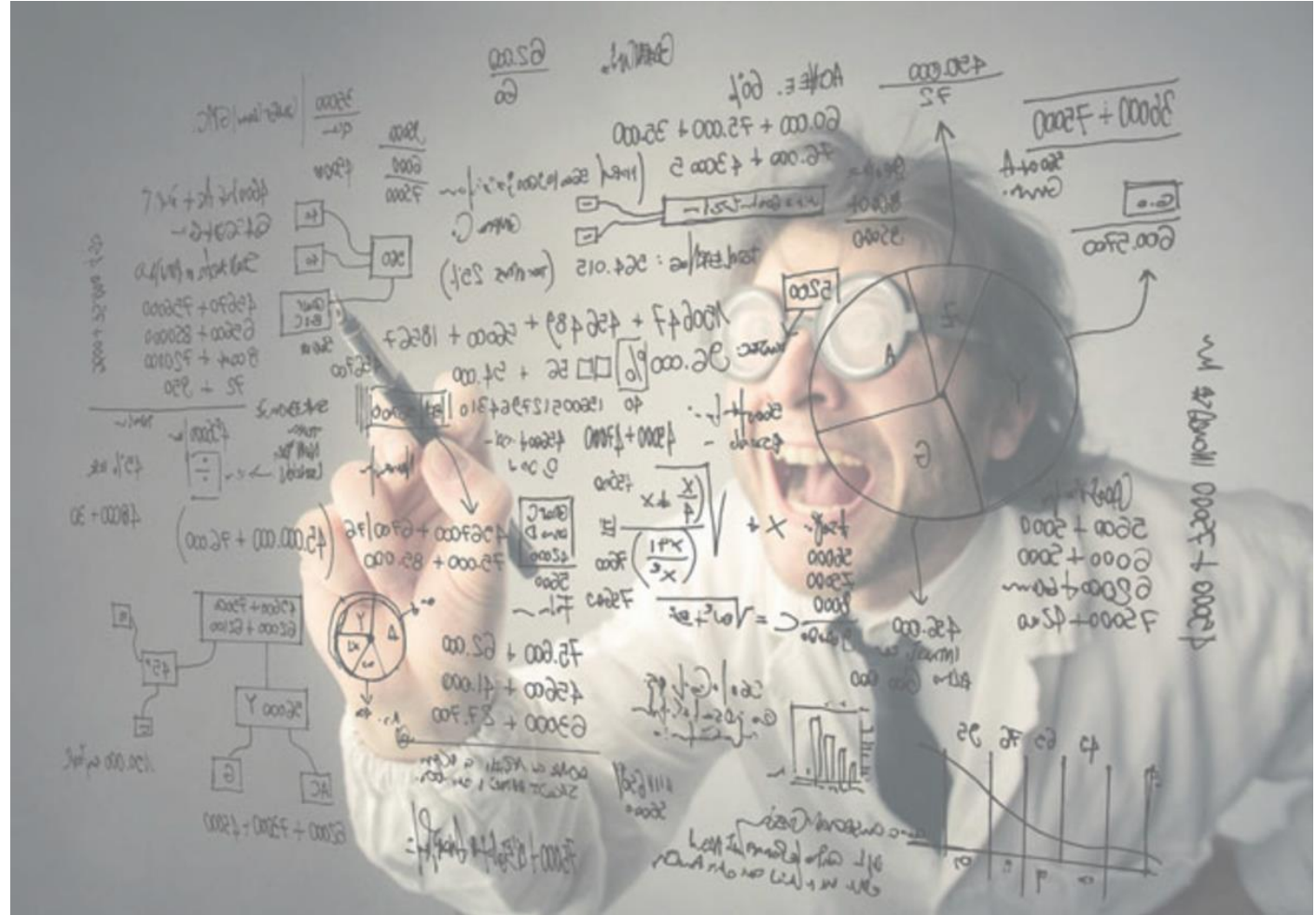
Only a few things before we start

- Azure Machine Learning Studio account
<https://studio.azureml.net>
- Data in csv or another supported format
<https://www.kaggle.com/c/titanic>
- No data scientist knowledge required



Prepare the data

- Create the dataset
- [Optional] Data cleaning
- Identify and select only relevant columns for the experiment
- Set categorical columns
- Set labels to be predicted



Selecting the algorithm

- What machine learning algorithm should I use? is always "It depends"
- Online resources like the Cheat sheet
<http://aka.ms/AzureMachineLearningCheatSheet>
- Allows also custom code with R or Python

Classification

- Make predictions for categorizable values
- Two-Class or Multi-Class



Regression

- Exact values predictions
- Sample: Income suggestion



Anomaly detection

- Serves to identify data points that are simply unusual
- Sample: Fraud Detection or Risk Analysis



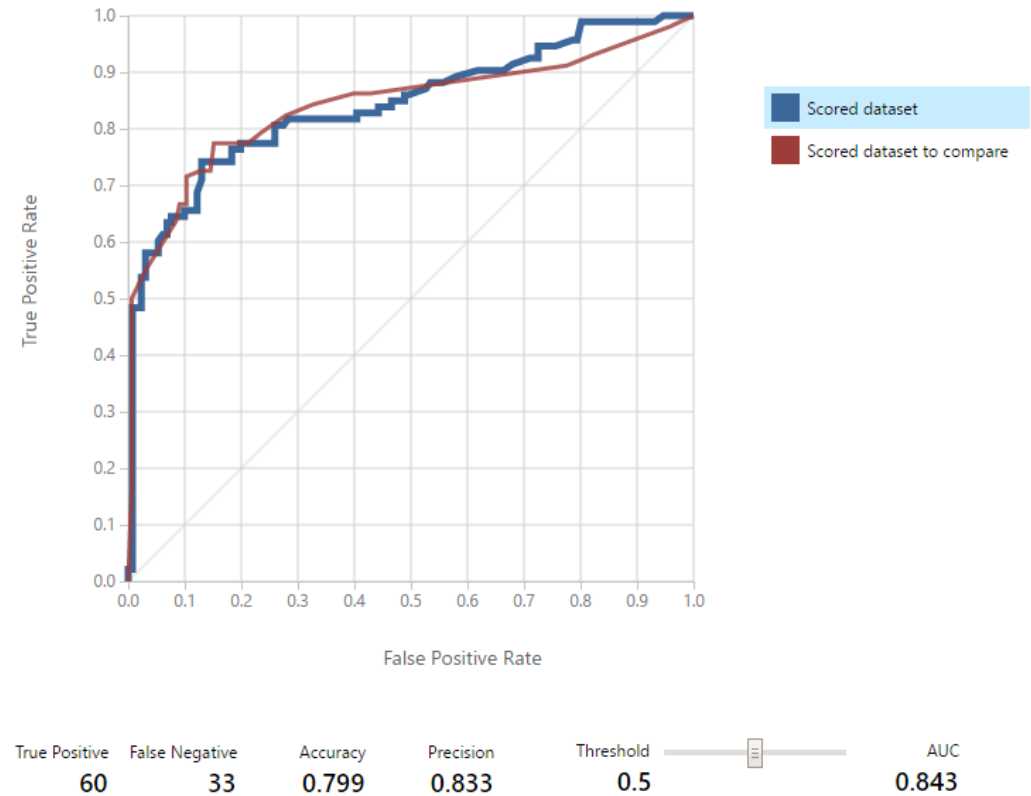
Clustering

- For data categorization
- No input and output data, it just get a data set and categorize each of them.

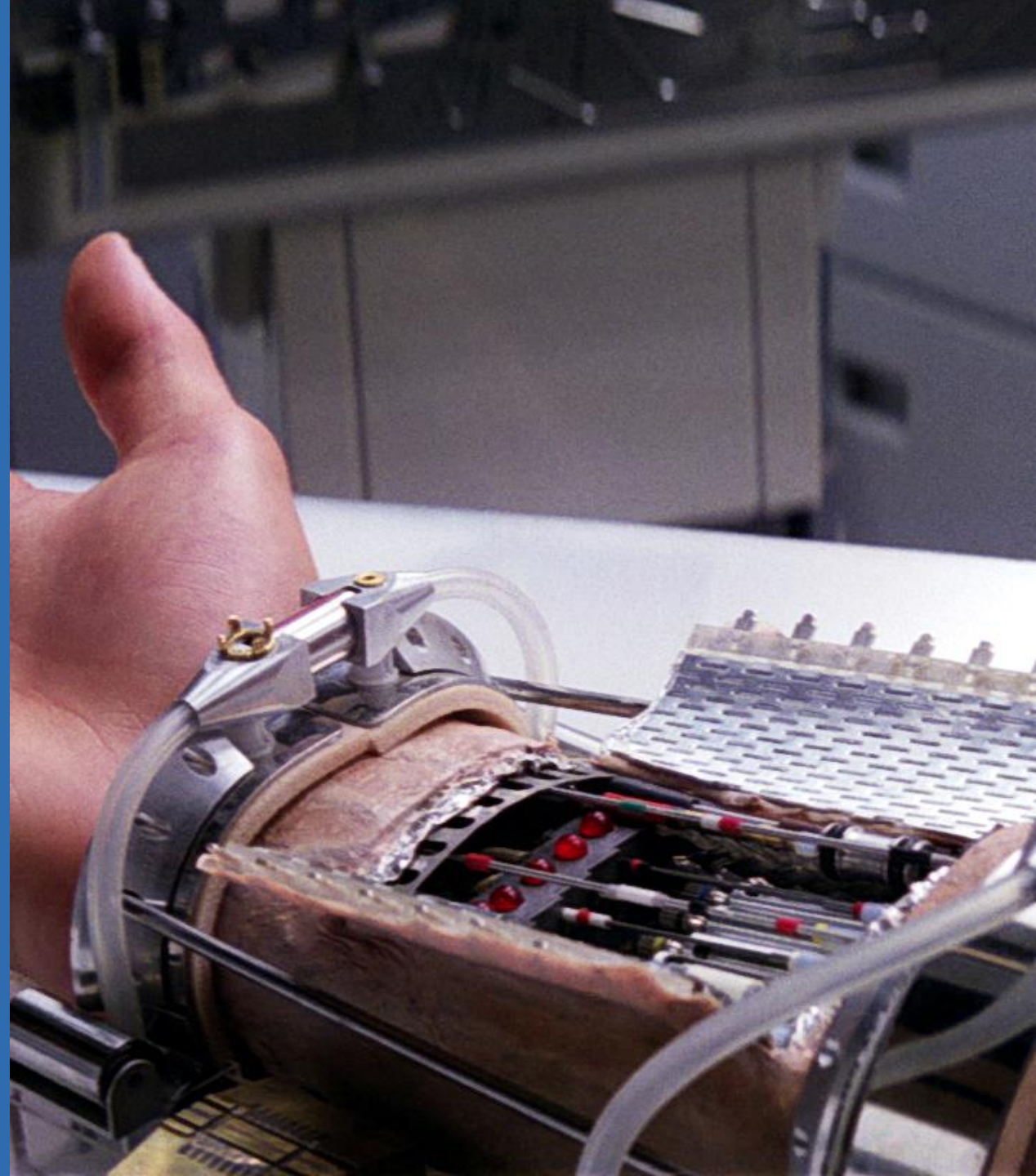


Train, Score & Evaluate

- Train different algorithms
- Score with splitted data
- Evaluate the scores and choose the best



HANDS ON LAB



Using JSLink to query AML

JSLink

- Modify column rendering on sharepoint list
- Client Side Code
- <http://bit.ly/1AJVdZc>

Tasks				
⊕ new task or edit this list				
All Tasks Calendar Sample1 ... <input type="text" value="Find an item"/>				
✓	Task Name	Due Date	Assigned To	Priority
	Task1 ✖	... October 05	<input type="checkbox"/> Muawiyah Shannak	(1) High
	Task2 ✖	... September 10	<input type="checkbox"/> Muawiyah Shannak	(2) Normal
	Task3 ✖	... September 28	<input type="checkbox"/> Muawiyah Shannak	(3) Low
	Task4 ✖	... October 05	<input type="checkbox"/> Muawiyah Shannak	(1) High
	Task5 ✖	... October 19	<input type="checkbox"/> Muawiyah Shannak	(3) Low

Calling AML Web Service from JSLink

 JQuery

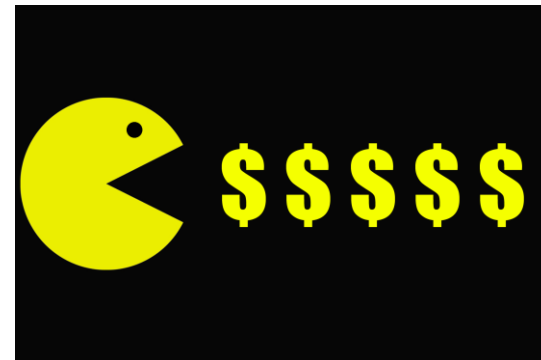
CORS Restricted

 SharePoint Web Proxy

No Auth Header

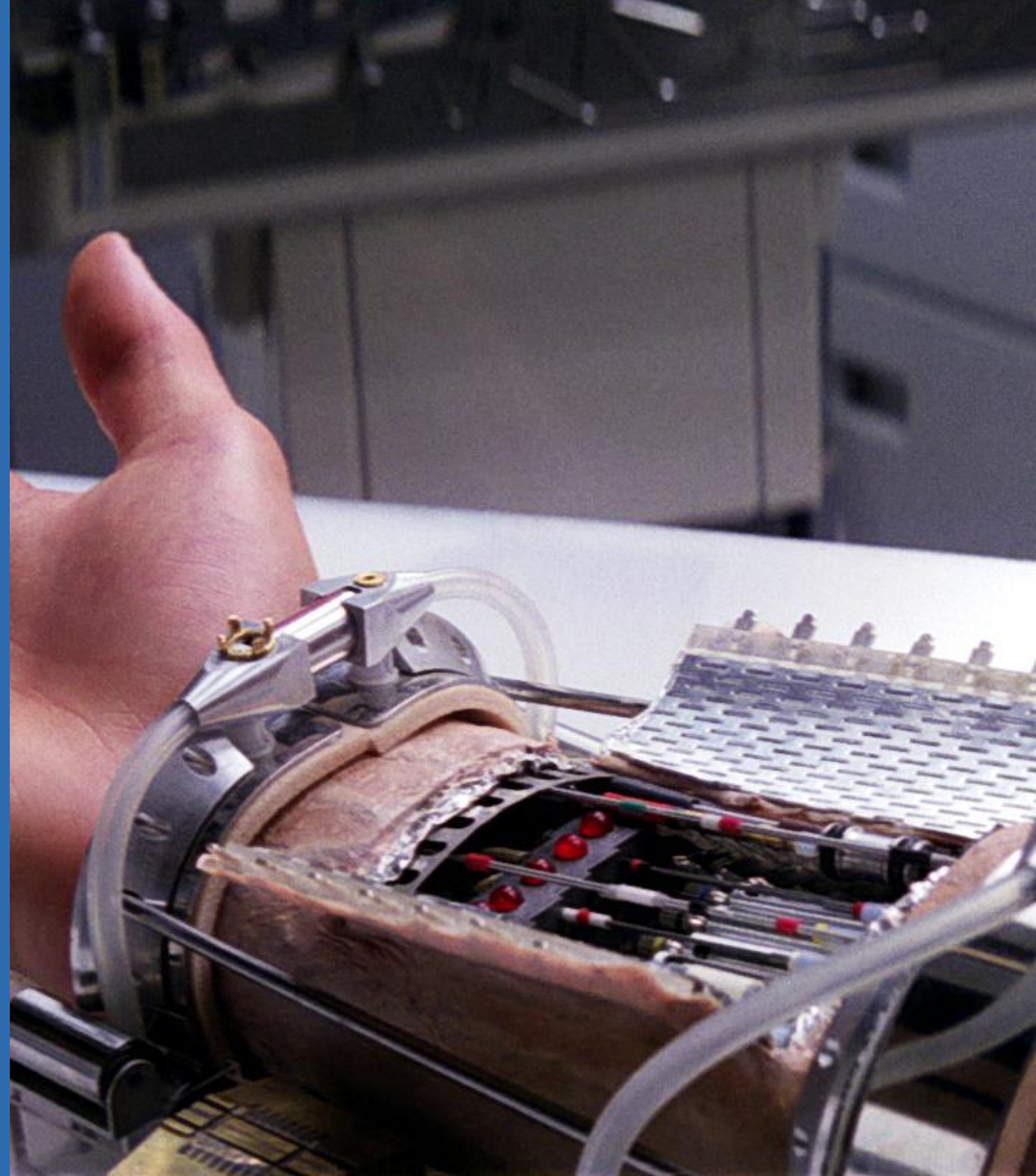
 Azure API

 Custom Proxy



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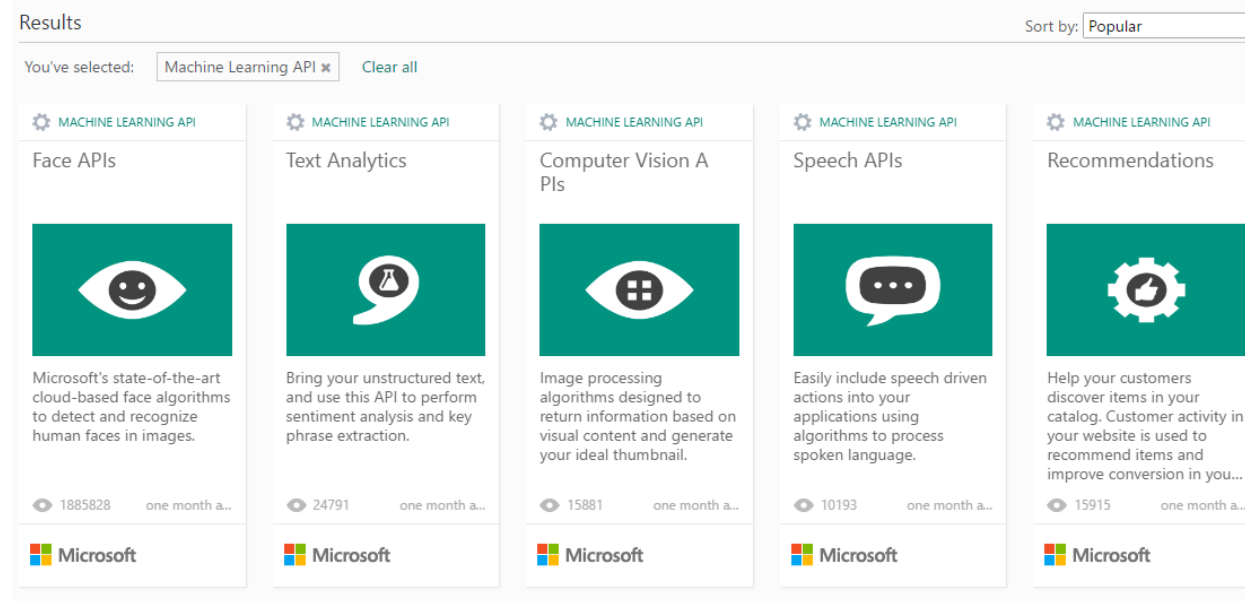
<http://bit.ly/1VLwpci>



Machine Learning APIs and Azure Marketplace

Machine Learning APIs

- A collection of consume ready webservicess from Microsoft Machine Learning experiments






<http://gallery.cortanaintelligence.com/machineLearningAPIs>

Azure Marketplace

- A collection of consume ready webservices published by particulars or organizations

44 Resultados en:

Ordenar por: Nombre Anunciante 1 2 3 4 5 ▶

	BAH Pixelate publicado por: Booz Allen Hamilton Deep learning based computer vision by Booz Allen Hamilton. Send a POST request with image_file in the request body (using multipart/form-data encoding) set to image you want analyzed. Receive a JSON array response with tags describing content of image.	datos
	Microsoft Translator - Speech Translation publicado por: Microsoft Translator Microsoft Translator supports speech input from 8 languages and translates to 18 speech and 50+ text languages. It can be used in combination with the Microsoft Translator - Text Translation API.	datos
	HealthMethods Procedure Cost Benchmarking publicado por: Applied Methods Inc HealthMethods Procedure Cost Benchmarking reveals opportunities to develop effective pricing strategies that can improve profits. The Provider Procedure Cost Comparison query only returns a sample data set. Customers can submit up to 10 CPT codes per call.	datos

<http://datamarket.azure.com/browse?query=machine%20learning>

Interested? Apply here:

<http://talent.beezy.net>



Raffle


Please, fill your **SPS Madrid** passport if you want to participate.

You must get signature from sponsors and complete the poll.

Give us the passport at 6:00 PM in the Auditorium room.

You can win one Sphero BB-8 or a mini drone:

















Pasaporte / Passport

Si deseas participar en **el sorteo final**, deberás conseguir la firma de nuestros patrocinadores Gold y Silver en sus stands. Una vez que tengas todas las firmas, rellena tu valoración de las sesiones y entrega esta hoja a las 18:00 en la sala Auditorio.

If you want to participate in **the final raffle**, you must get the signature of our Gold and Silver sponsors in their stand. Once you have all the signatures, complete the poll about the sessions and give us this sheet at 6:00 PM in the Auditorium room.

 	 	 	 	 	 
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My name is: Ham Solo My e-mail: hampho@mail.com

Por favor, puntúa las sesiones en el **campo gris** con números desde 1 (muy mal) a 10 (gran sesión).

± Please, rate sessions in the **greyed field** with numbers from 1 (too bad) to 10 (great session).

9:30 AM - 10:30 AM	Aplicaciones de Negocio y Movilidad - Lleva tus procesos a tu dispositivo móvil en 5 clics		Office365 Administration with PowerShell and PnP Features		Un SharePoint en la mochila	9	Next Generation Sync Client – The last chance for Microsoft	
10:30 AM - 11:30 AM	Grupos de Office 365 & Planner: Colaboración y productividad empresarial end-to-end	10	A Deep Dive into SharePoint 2016 architecture and deployment		Working with a Supermodel for SharePoint Add-ins		'Unmanaged' Knowledge Management: The future of Intranets	
11:30 AM - 12:30 AM	Skype for Business Cloud PBX		Click here for Disaster! Configuring SharePoint standby farms	8	Desarrollando Add-Ins con Angular 2		Remote provisioning con PnP Framework	
12:30 AM - 1:30 PM	Getting SQL spinning with		Going hybrid with Exchange		Introduction to Azure Machine Learning		Modern Branding on	9

Gold sponsors



Silver sponsors



Collaborate



Bronze sponsors

