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# Einstein Language API

**Lucas Buyo**

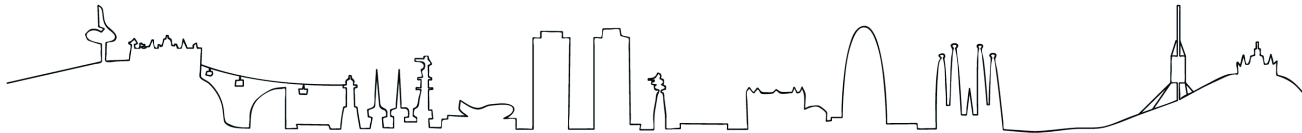
Developer



@breathingcode

# Agenda

- NLP
- Einstein Platform Services
- Casos de uso
- How-To's
- Salesforce demo
- Show me the Code
- Tips
- Q&A



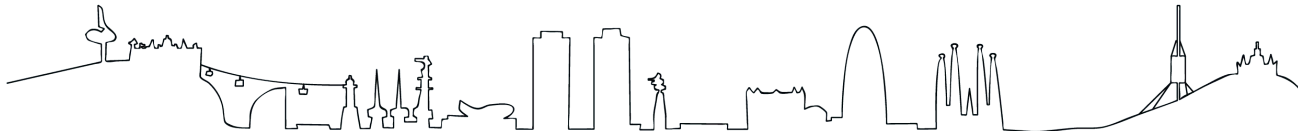


# NLP

*Natural language processing is the field that covers **computer understanding and manipulation of human language.***

# Einstein Platform Services

- Nuevos poderes para los developers
- AI as a Service
- Einstein Platform Services facilita el acceso a Deep learning
- Poder de procesamiento + análisis de grandes volúmenes de datos



# Einstein Platform Services

Vision API

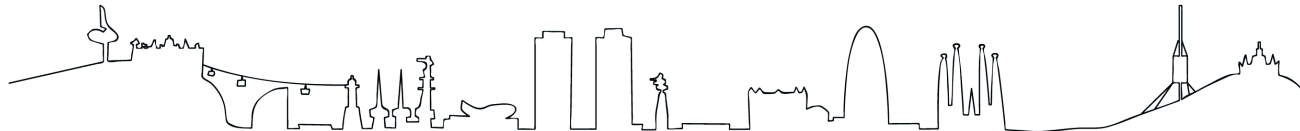
Classification /  
Multi-label

Object  
Detection

Language API

Sentiment

Intent



# Casos de uso

## Ventas

Identificar qué potenciales clientes están interesados en mis productos o servicios y notificar al equipo adecuado para concretar esa venta.

## Servicio

Dirigir los casos o reclamos a los agentes y departamentos correctos.

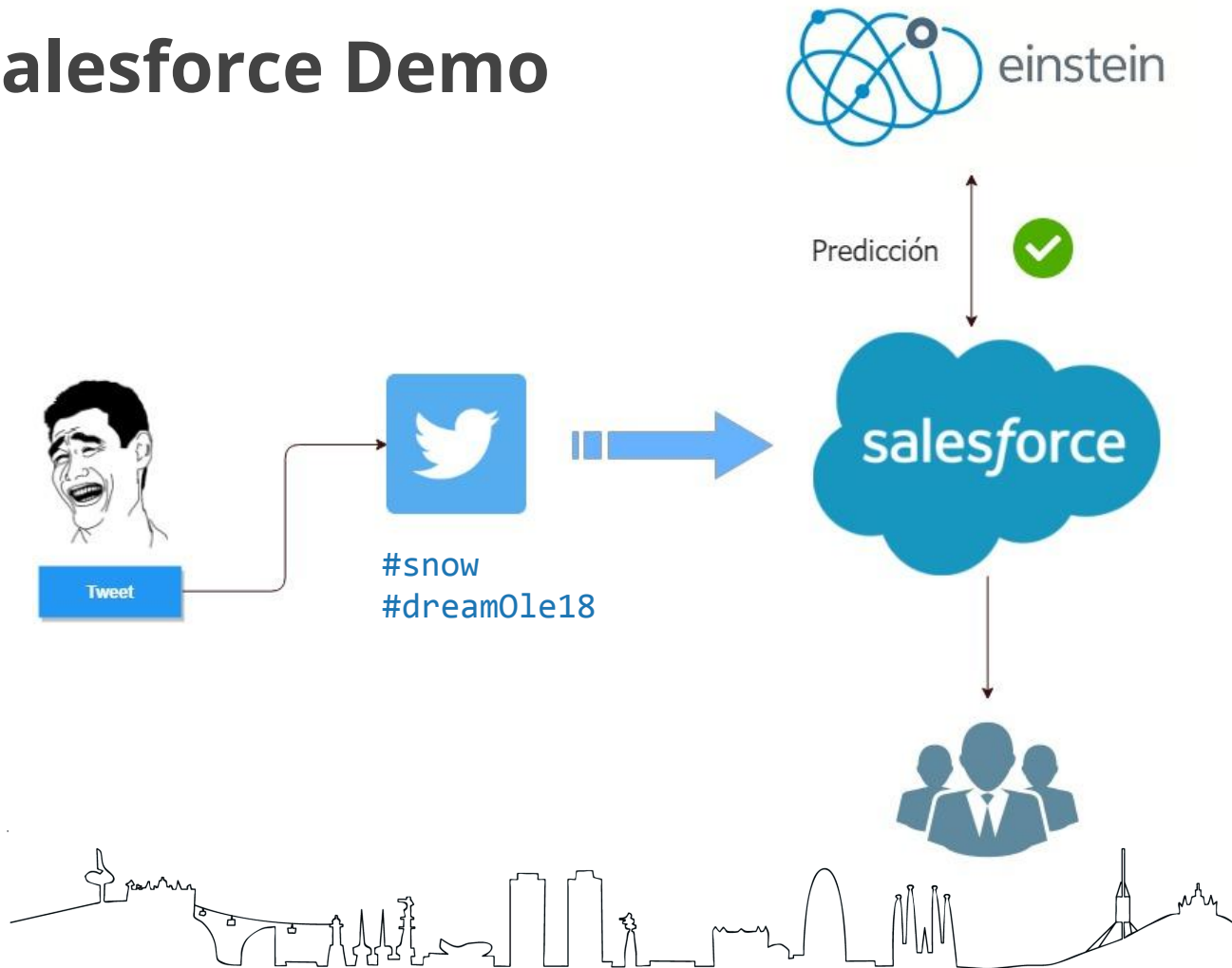
También proporcionar información para gestionar autoservicio.

## Automatizar

Poder tomar decisiones de forma automática, de manera inteligente y sin demoras.



# Salesforce Demo



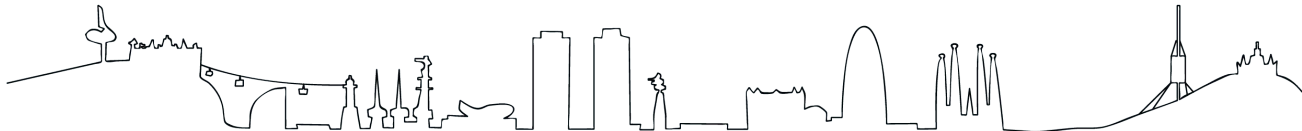
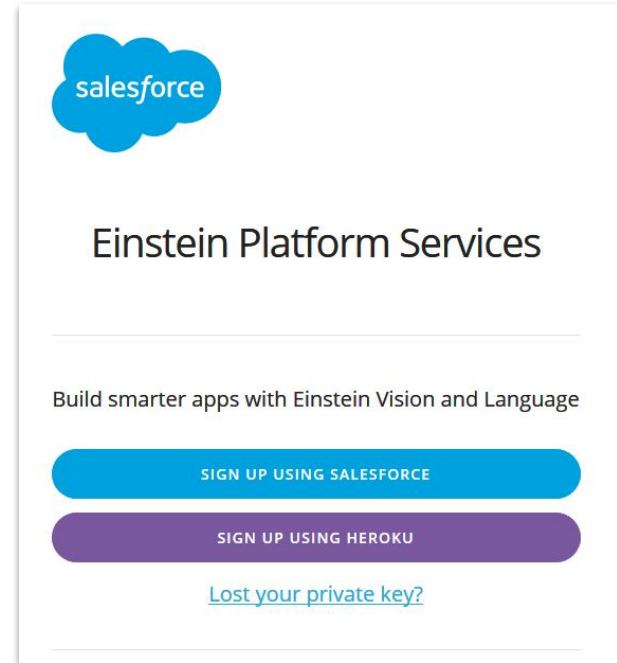


# Authentication process

1. Registrarse Einstein Platform Services  
<https://api.einstein.ai/signup>
2. *One time*: descargar un archivo RSA Private Key (*.pem*)
3. OAuth 2.0 JWT bearer token flow

## JSON Payload

```
{  
  "sub": "<EMAIL_ADDRESS>",  
  "aud": "https://api.einstein.ai/v2/oauth2/token",  
  "exp": <EXPIRATION_SECONDS_IN_UNIX_TIME>  
}
```





# Temporary Token

## Einstein Platform Services

Generate an OAuth Token

Email or Account ID

youremail@gmail.com

Private Key

```
-----BEGIN RSA PRIVATE KEY-----  
MIIEowIBAAKCAQEA4VrmKTVDxx1/DZ5dq3XR
```

Seleccionar archivo | einstein\_platform.pem

Expiration in Mins

3660

GET TOKEN

<https://api.einstein.ai/token>

Obtener un Session Token de prueba



# Datasets

1. Crear un archivo de datos  
Formatos de archivo soportados (csv, tsv, json)
2. Crear un Dataset en Language API

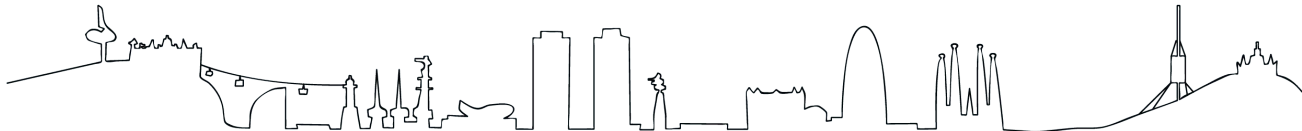
## CSV

```
"what's the weather look like",current-weather  
"is it raining",current-weather  
"what's the temperature",current-weather
```

## TSV

```
"what's the weather look like" current-weather  
"is it raining" current-weather  
"what's the temperature" current-weather
```

```
{  
  "intents": {  
    "current-weather": [  
      "what's the weather look like",  
      "is it raining",  
      "what's the temperature",  
      "show me current conditions",  
      "how hot is it",  
      "how cold is it",  
      "is it snowing",  
      "is it raining",  
      "is it sunny",  
      "is it cloudy",  
      "is it raining in Detroit",  
      "how is Denver today",  
      "is Chicago cold",  
      "is Miami hot",  
      "show me the current conditions",  
      "what's the temperature in new york",  
      "show me current conditions for san francisco",  
      "what's the weather look like in Chicago",  
      "is it raining in Seattle",  
      "what's the temperature in New York",  
      "show me current conditions for Boston",  
      "how hot is it in Miami",  
      "how cold is it Anchorage"  
    ]  
  }  
}
```



# Datasets

**POST**

Crear un nuevo Dataset ( *sync / async* )

**PUT**

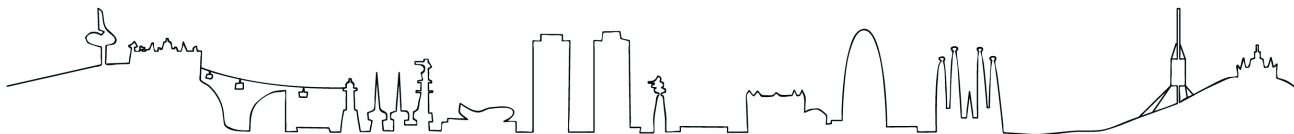
Actualizar un Dataset (+ data)

**GET**

Consultar estado del Dataset

**DELETE**

Eliminar un Dataset

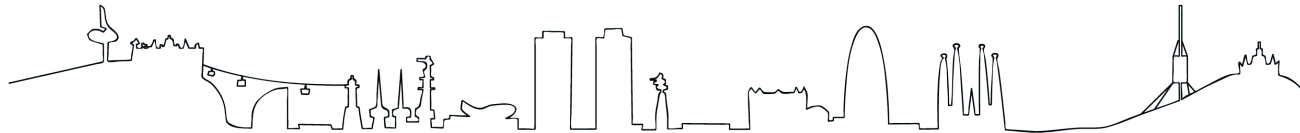


# Training

1. Es convertir un Dataset en un modelo predictivo.

Los algoritmos “aprenden” de los datos y ese patrón de predicción genera un modelo predictivo.

2. Cuanto mayor el volumen de datos, mejor el aprendizaje y mayor la precisión del modelo predictivo.
3. El training demora algunos minutos.



# Training

POST

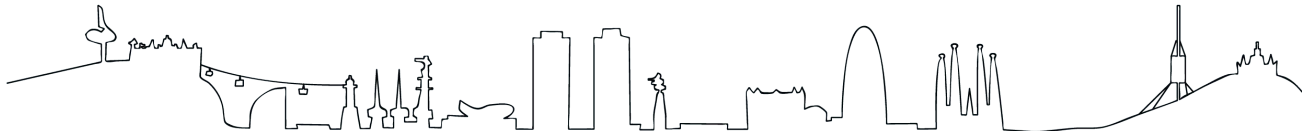
Entrena con Dataset y crea un Modelo

POST

Reentrenar un Dataset y actualizar el Modelo

GET

Consultar estado de un Training job



# Models

GET

Get Model Metrics

GET

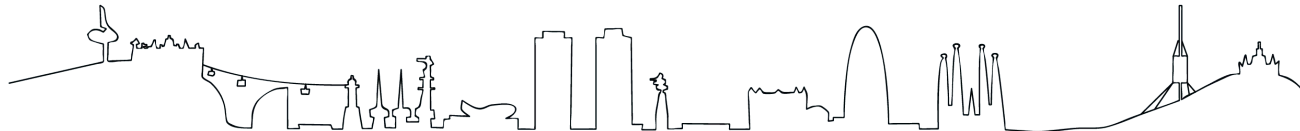
Get Model learning curve

GET

Get All models

DELETE

Delete a Model



# Prediction

POST

Realiza un predicción en base a un texto (*language*)

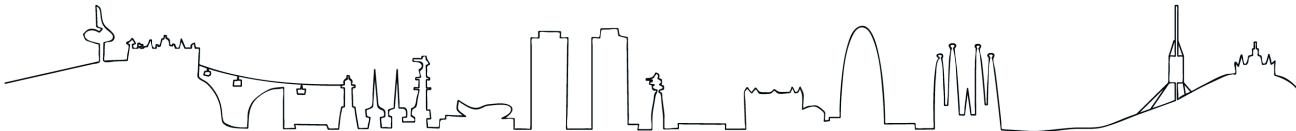
Una **Predicción**  
analiza todos los *classifiers*.  
Indica la probabilidad para cada label.



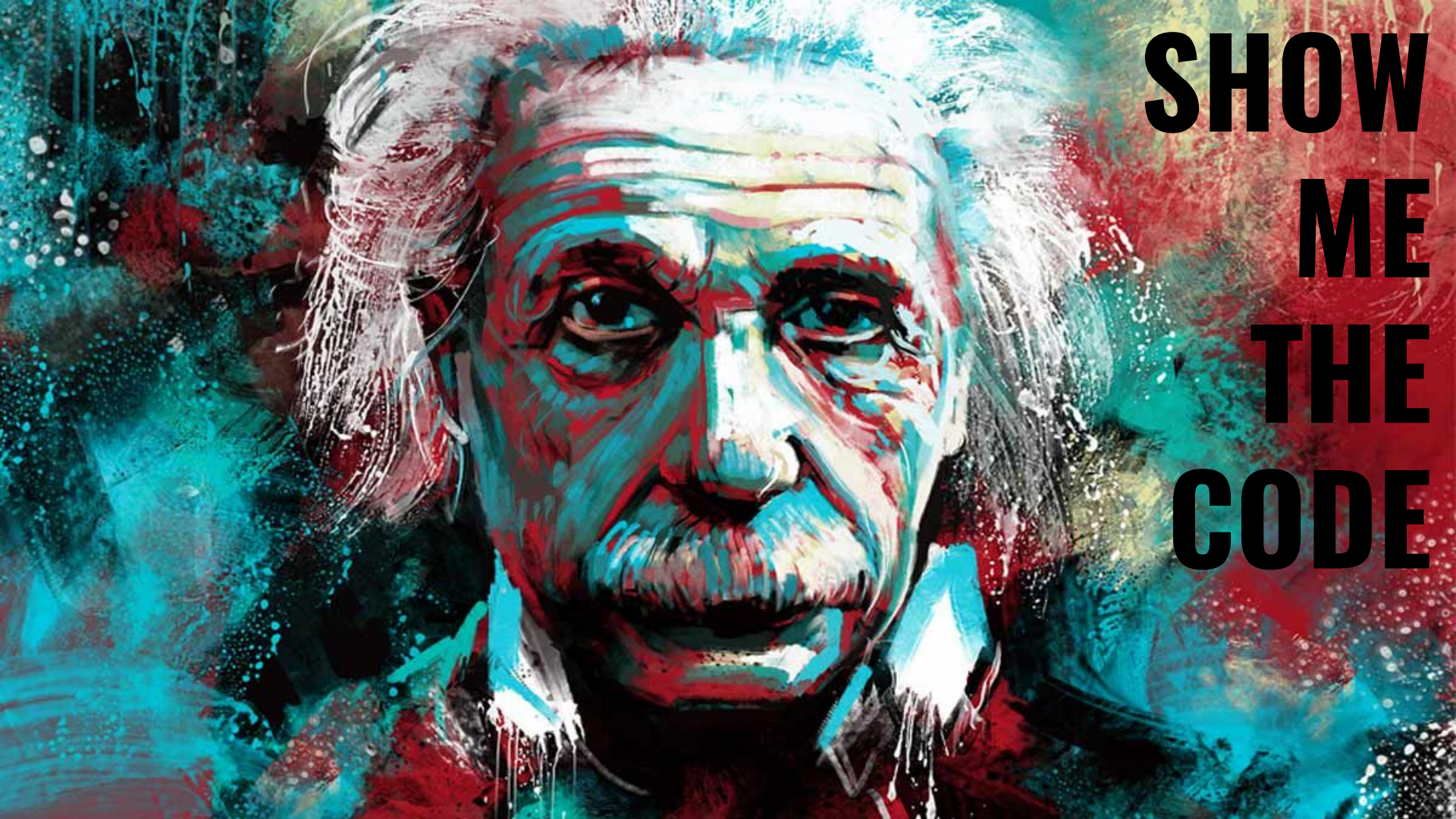
Label : **Ventas**  
Probability : 0.81

Label : **Reclamos**  
Probability : 0.56

Label : **Servicios**  
Probability : 0.38







**SHOW  
ME  
THE  
CODE**

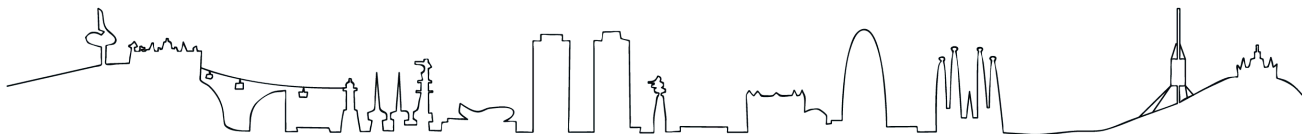
# Dónde comienzo?

[api.einstein.ai/signup](https://api.einstein.ai/signup)  
[metamind.readme.io](https://metamind.readme.io)

- Code samples para Apex, Java, Swift, Python, Scala & Go
- Trailheads
- Salesforce Community

# Considerations

- No SDKs disponibles
- Solo “in English”
- Free Tier 2000 predictions /month



# Hint & Tips

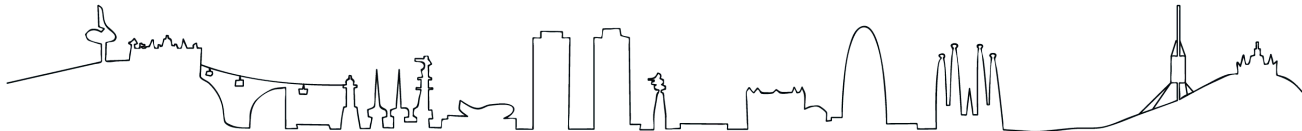
Einstein tiene modelos “Pre-trained” [*sentiment, scene & food classifier*]

Dataset: 500 rows per label [*poc*]

Feedback loop!

Coming soon:

- + idiomas en Language API
- Entity extraction: detección automática de classifiers



# Q & A



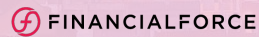
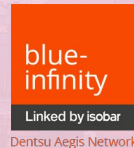
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