



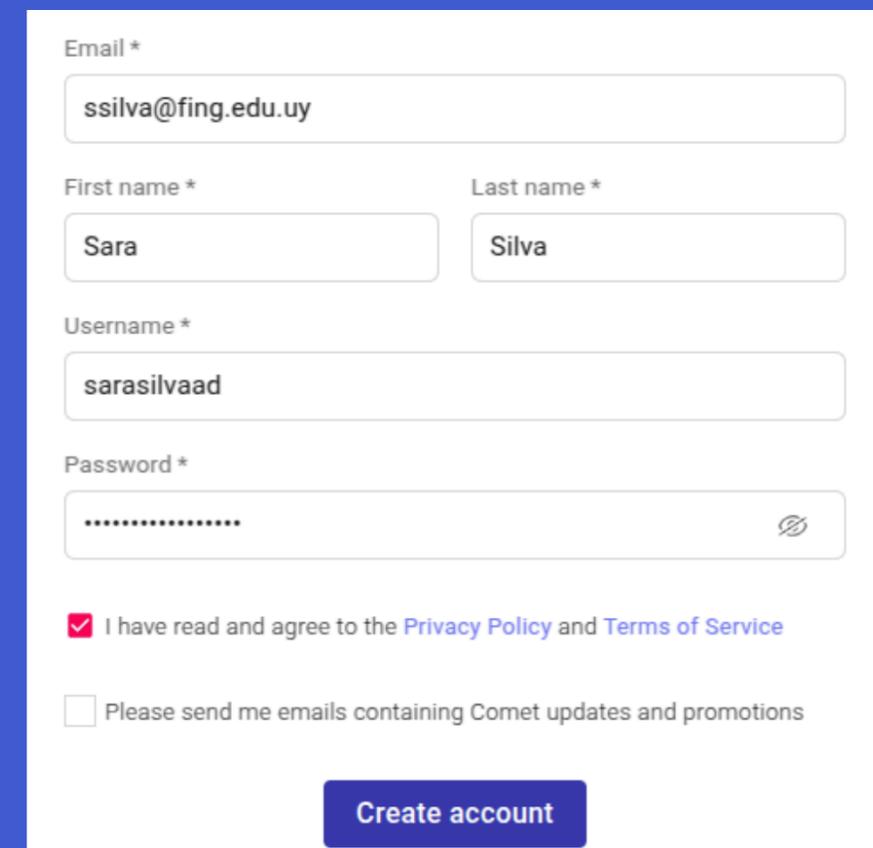
comet

IDEA

Comet es una plataforma que ayuda a hacer **seguimiento**, **visualización** y **comparación** de experimentos de machine learning. Permite registrar métricas, hiperparámetros, gráficos y modelos en tiempo real.

CREAR USUARIO

<https://www.comet.com/login>



The image shows a user registration form for Comet. It includes fields for Email, First name, Last name, Username, and Password. There are also checkboxes for agreeing to the Privacy Policy and Terms of Service, and for receiving emails. A 'Create account' button is at the bottom.

Email *

ssilva@fing.edu.uy

First name * Last name *

Sara Silva

Username *

sarasilvaad

Password *

.....

I have read and agree to the [Privacy Policy](#) and [Terms of Service](#)

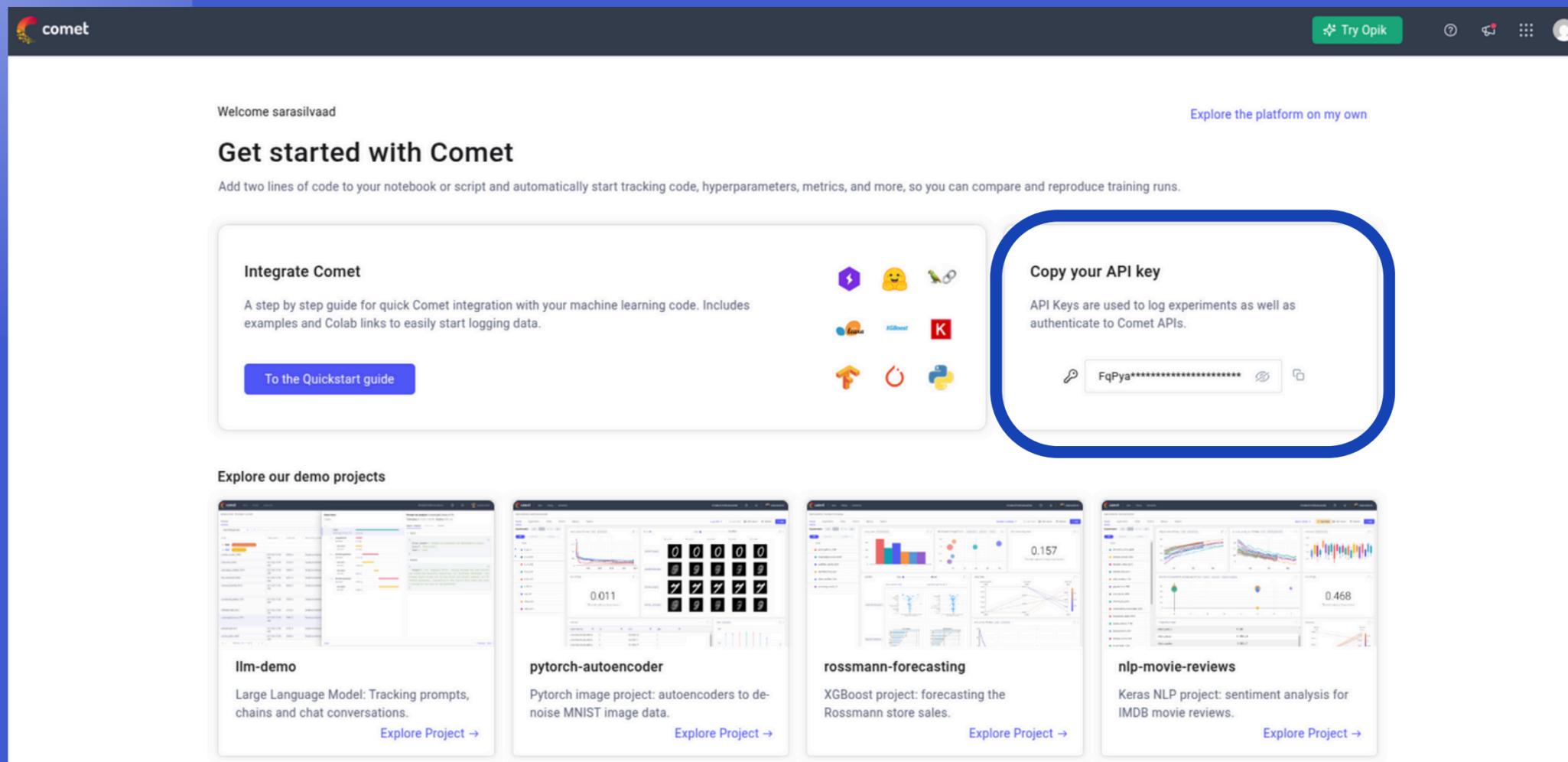
Please send me emails containing Comet updates and promotions

Create account

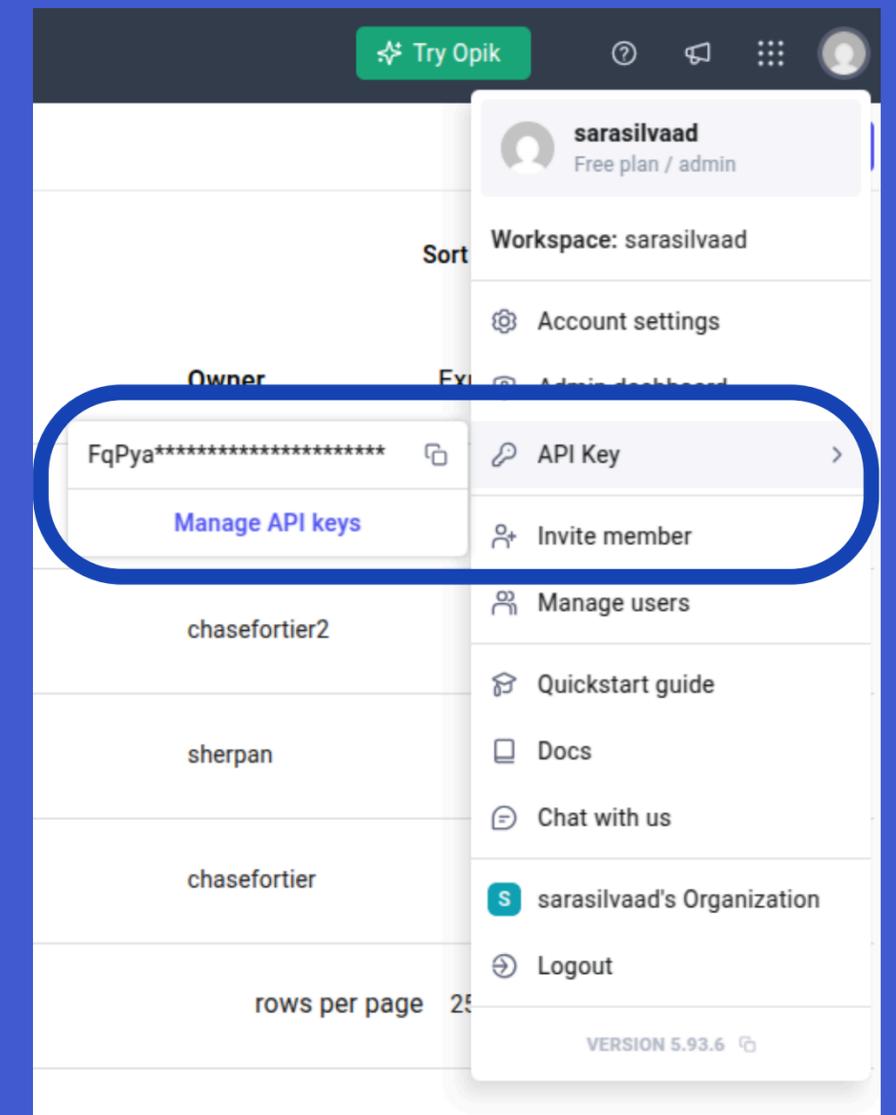
API KEY

identificador único que los autentica ante un servicio.

Esta clave le dice a Comet quiénes son ustedes y les permite conectarse a sus servicios desde su código, sin necesidad de ingresar usuario y contraseña cada vez.



The screenshot shows the Comet dashboard for user 'sarasilvaad'. The main heading is 'Get started with Comet'. Below it, there are two main sections: 'Integrate Comet' and 'Copy your API key'. The 'Copy your API key' section is highlighted with a blue rounded rectangle. It contains the text 'API Keys are used to log experiments as well as authenticate to Comet APIs.' and a text input field containing a masked API key 'FqPya*****'. Below the input field are icons for copying and pasting. To the right of the 'Copy your API key' section, there are icons for various integrations: PyTorch, TensorFlow, Keras, and others. Below these sections, there is a 'Explore our demo projects' section with four project cards: 'llm-demo', 'pytorch-autoencoder', 'rossmann-forecasting', and 'nlp-movie-reviews'. Each card has a brief description and an 'Explore Project' link.



The screenshot shows the user profile dropdown menu for 'sarasilvaad'. The menu is open, showing various options. The 'API Key' option is highlighted with a blue rounded rectangle. The menu items include: 'Workspace: sarasilvaad', 'Account settings', 'API Key', 'Invite member', 'Manage users', 'Quickstart guide', 'Docs', 'Chat with us', 'sarasilvaad's Organization', and 'Logout'. At the bottom of the menu, it says 'VERSION 5.93.6'.

EN EL CÓDIGO

```
✓ 21s !pip install comet_ml
⇄ Mostrar el resultado oculto
✓ 6s [5] #import comet_ml in the top of your file
      from comet_ml import Experiment
✓ 0s [8] API_KEY='FqPy[REDACTED]'
```

Instanciamos experimento

```
▶ #create an experiment with your api key
exp = Experiment(api_key=API_KEY, #api_key=os.environ.get("COMET_API_KEY"),
                 project_name='movie_reviews',
                 auto_param_logging=False)

exp.set_name('parte4')
exp.add_tags(['basico'])
```

Si el proyecto no existe ya, lo va a crear

Creamos un experimento y le indicamos a qué proyecto pertenece, el nombre del experimento, y algún tag que querramos ponerle

- Entrenamos -> podría ser este como cualquier otro entrenamiento

```
• [31] basic_pipeline_scores = cross_validate(basic_pipeline, X4, y4, scoring=['accuracy', 'precision', 'recall'])
```

Loggeamos los resultados

```
exp.log_dataset_hash(X4) # X4 = X_train.values
exp.log_parameters(basic_pipeline.get_params()) # Nativo de la clase Experiment de Comet
save_results(exp, basic_pipeline_scores)
exp.end()
```

Función que definimos nosotros en función del formato de nuestros resultados y lo que quiero reportar

Ejemplo de función para reportar resultados:

```
def save_results(cmt_exp, cross_val_results):
    ...
    Entrada:
        cmt_exp: experimento comet
        cross_val_scores: scikit-learn cross validation results
    ...
    avg_fit_time = cross_val_results['fit_time'].mean()
    std_fit_time = cross_val_results['fit_time'].std()
    avg_cv_accuracy = cross_val_results['test_accuracy'].mean()
    std_cv_accuracy = cross_val_results['test_accuracy'].std()
    avg_cv_precision = cross_val_results['test_precision'].mean()
    std_cv_precision = cross_val_results['test_precision'].std()
    avg_cv_recall = cross_val_results['test_recall'].mean()
    std_cv_recall = cross_val_results['test_recall'].std()

    metrics = {
        'avg_fit_time':avg_fit_time,
        'std_fit_time':std_fit_time,
        'avg_cv_accuracy':avg_cv_accuracy,
        'std_cv_accuracy':std_cv_accuracy,
        'avg_cv_precision':avg_cv_precision,
        'std_cv_precision':std_cv_precision,
        'avg_cv_recall':avg_cv_recall,
        'std_cv_recall':std_cv_recall,
    }

    plt.figure()
    plt.plot(cross_val_results['test_accuracy'],'*-')
    plt.xlabel('fold')
    plt.ylabel('accuracy')
    plt.title('Cross validation accuracy')
    plt.grid()

    exp.log_metrics(metrics)
    exp.log_figure(figure=plt)

    return
```

Escribimos un diccionario con un valor por métrica

Hacemos un plot

Loggeamos tanto las métricas como la figura

basic_pipeline_scores

```
{'fit_time': array([45.23854232, 44.71766424, 46.65585852, 41.33927178, 46.95525622]),
 'score_time': array([1.31294918, 1.21357536, 1.17131662, 1.17548633, 1.18535161]),
 'test_accuracy': array([0.88185714, 0.88585714, 0.88314286, 0.88014286, 0.88342857]),
 'test_precision': array([0.8799431 , 0.88392603, 0.87746479, 0.87953183, 0.87881356]),
 'test_recall': array([0.88421955, 0.88822184, 0.89050886, 0.88078902, 0.88936535])}
```

Y ESTO CÓMO SE VE EN COMET?



The image shows a promotional graphic for Comet. On the left, the Comet logo is displayed, consisting of a stylized orange and red comet tail above the word "comet" in white lowercase letters. Below the logo, the tagline "Build better models faster" is written in white. The background of the graphic is dark blue with various 3D data visualization elements, including bar charts, line graphs, and circular refresh icons, all rendered in a light blue color. The overall aesthetic is modern and tech-oriented.

Supercharging Machine Learning

Comet lets you track code, experiments, and results on ML projects. It's fast, simple, and free for open source projects.

 Comet.ml

DOCUMENTACIÓN DE EXPERIMENTOS

<https://www.comet.com/docs/python-sdk/Experiment/>