

Proyecto de Machine Learning



Predicción de victorias en partidas de League of Legends

The background of the title screen is a composite image. The top half features a dark, moody scene with a large, metallic, spherical object on the left and a blue, fox-like character on the right. The bottom half is a light gray, geometric pattern. The title "LEAGUE OF LEGENDS" is centered in a large, gold, 3D font.

LEAGUE OF LEGENDS

Modo Partidas 5v5

Mapa de juego



3 CALLES
2 JUNGLAS

En las bases y en las calles hay Torres que protegen el avance del equipo contrario

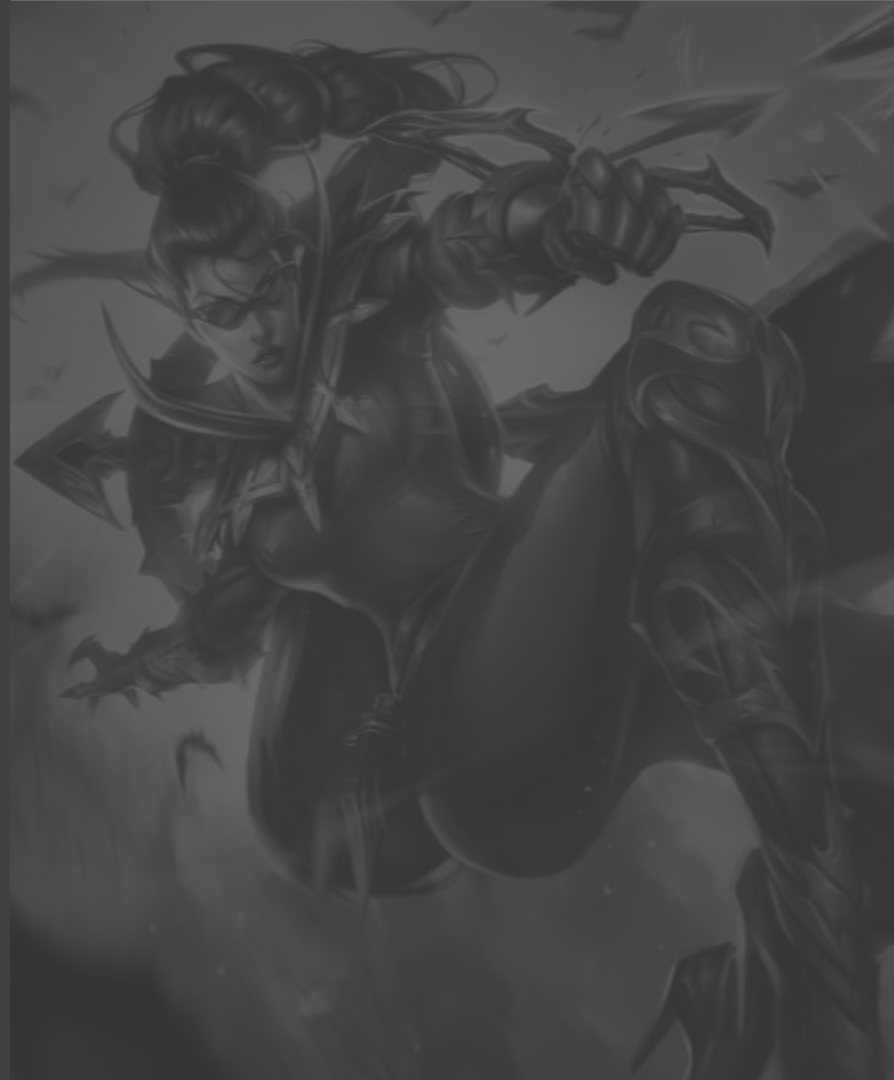


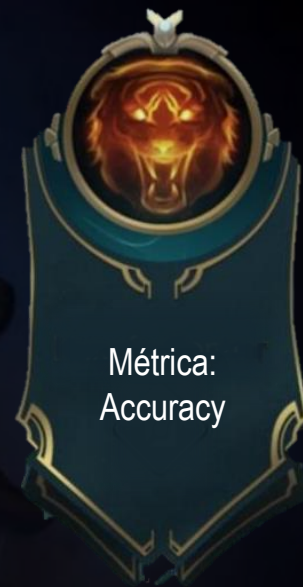
Hay “monstruos” controlados por el juego (Minions, Dragones, Heraldos...)


Eliminar Torres, “monstruos” o jugadores contrarios proporciona Oro y Experiencia



La duración media de las partidas oscila entre los 25-45 minutos.





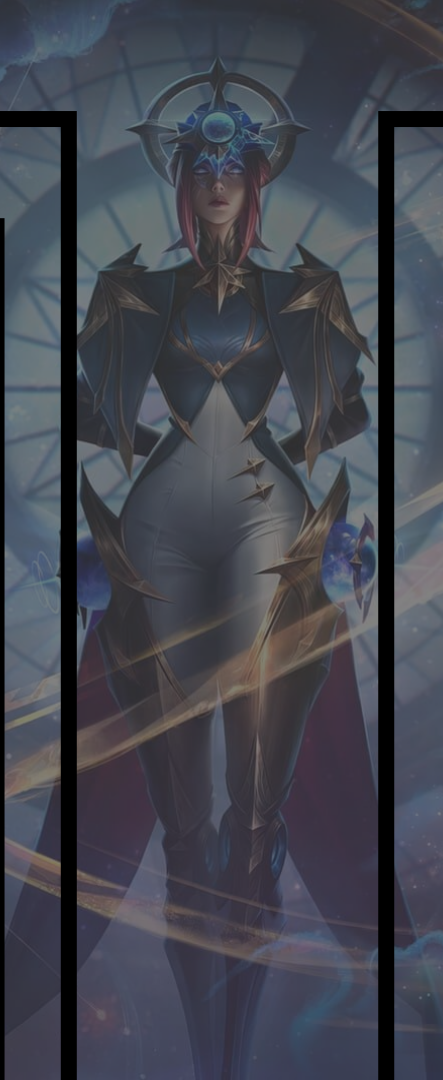
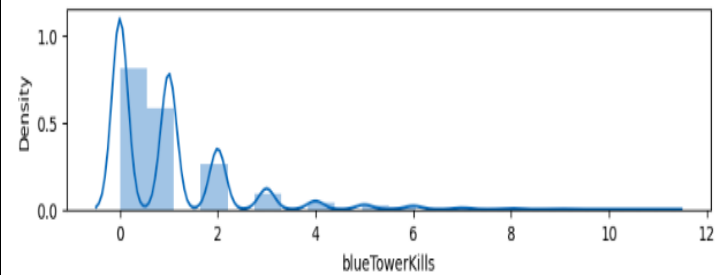
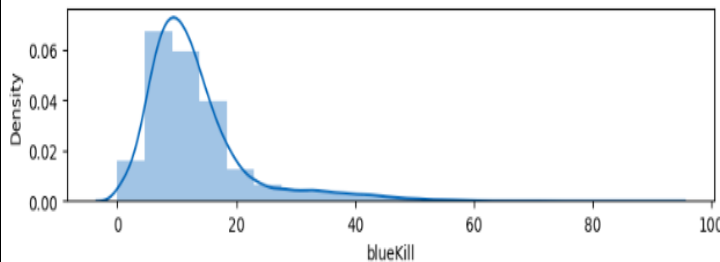
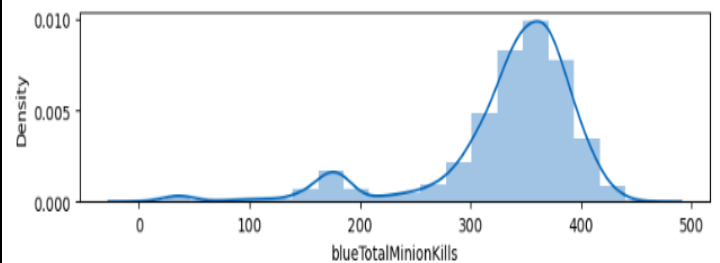


51 features iniciales:
47 features numéricas
4 features categóricas
Sin datos missing

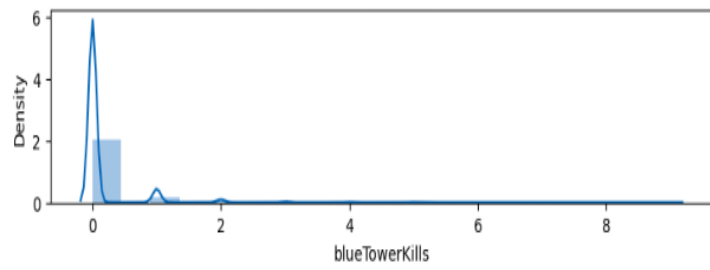
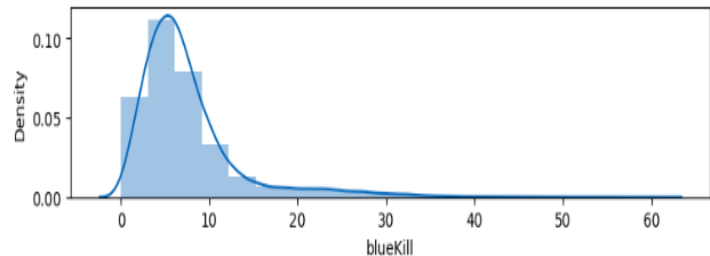
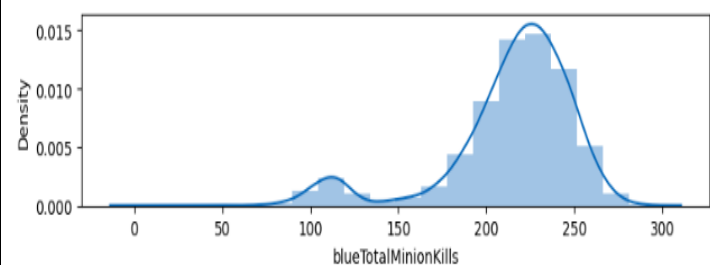
Después de la transformación
de las categóricas y la
eliminación de un target
encubierto -> **61 features**

Target balanceado
para ambos Datasets

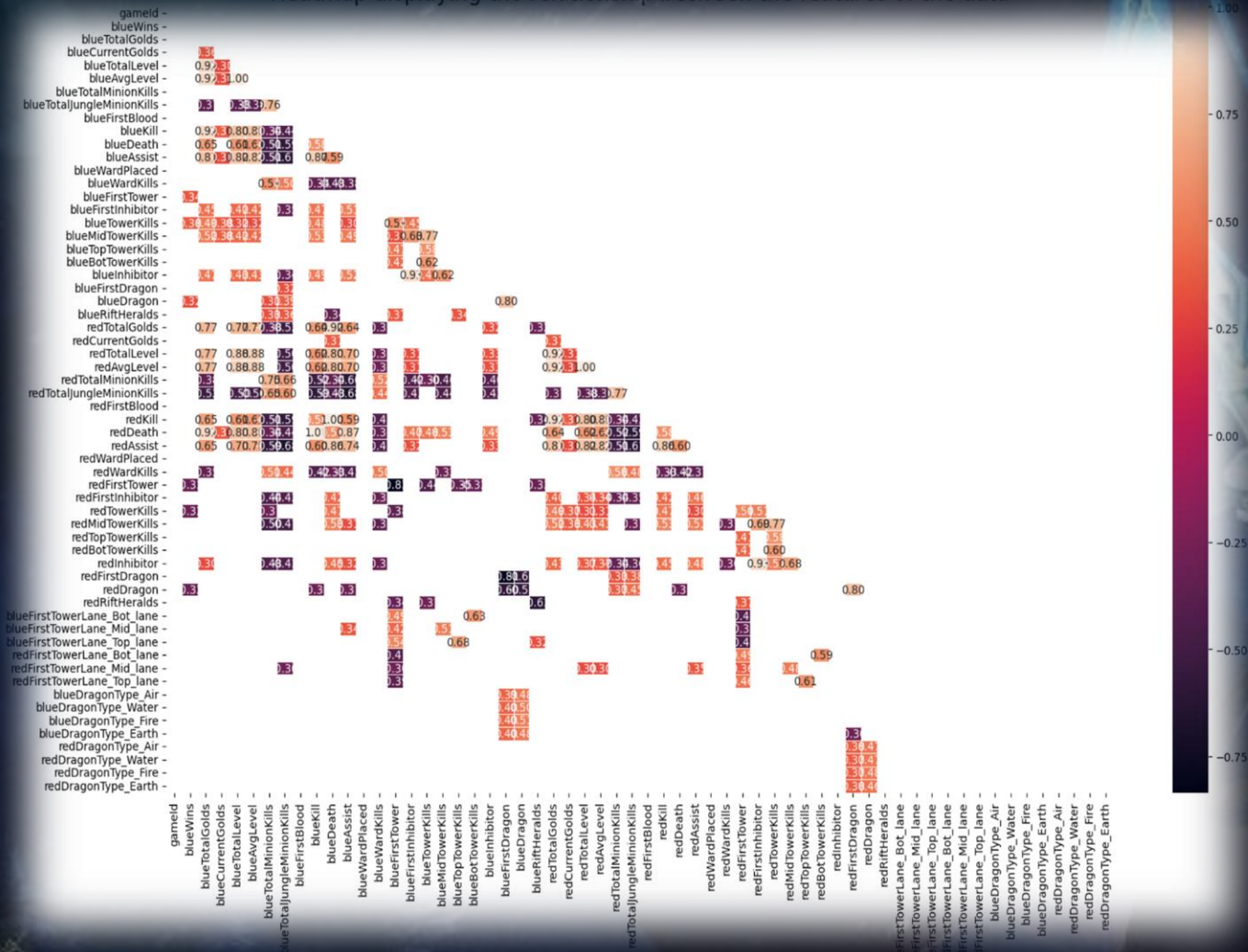
Partidas de 15 min



Partidas de 10 min



Heatmap displaying the relationship between the features of the data



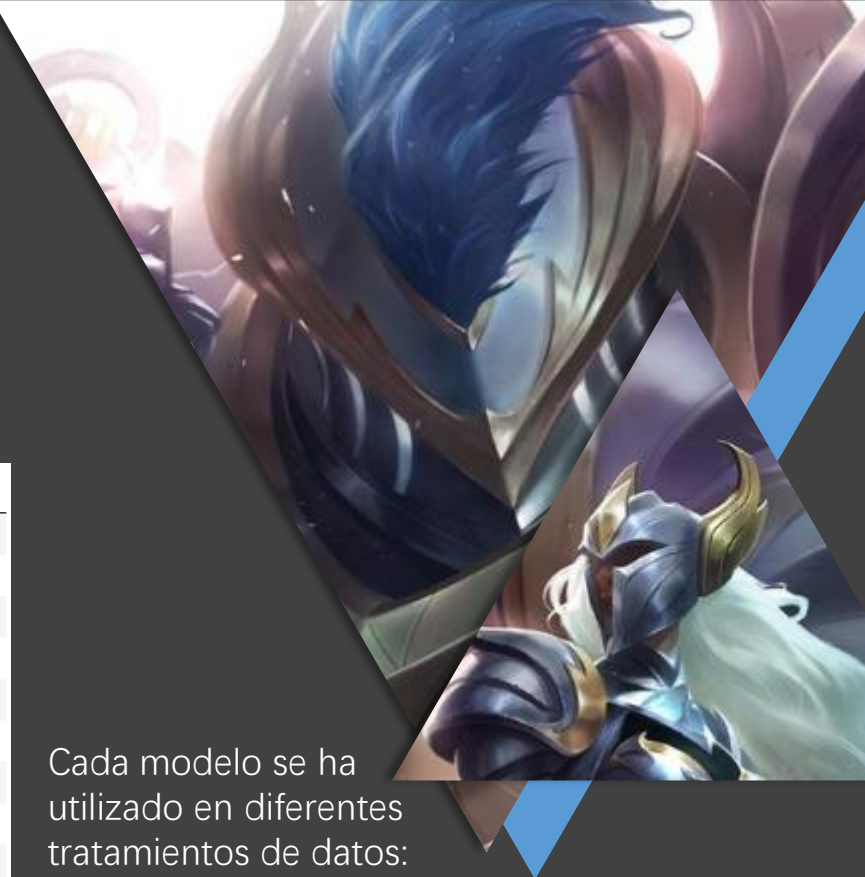
Modelos empleados

Random Forest Catboost XGBoost
Lightgbm SVC Redes Neuronales....

Modelo	Train_15min	Test_15min	Validación_15min	Train_10min	Test_10min	Validación_10min
M1_randomforest	1.00	0.81	0.81	1.00	0.74	0.73
M1_randomforest_GridS	0.82	0.81	0.81	0.76	0.74	0.73
M1_gradientboosting	0.83	0.81	0.81	0.77	0.74	0.73
M1_gradientboosting_GridS	0.84	0.81	0.81	0.77	0.74	0.73
M1_catboost	0.86	0.81	0.80	0.81	0.73	0.73
M1_catboost_GridS	0.82	0.81	0.81	0.76	0.74	0.73
M1_xgboost	0.99	0.79	0.79	0.95	0.72	0.72
M1_lightgbm	0.91	0.80	0.80	0.86	0.73	0.73
M1_lightgbm_GridS	0.82	0.81	0.81	0.78	0.74	0.73
M1_svc	0.50	0.51	0.49	0.50	0.50	0.50
M1_svc_GridS	1.00	0.51	0.49	1.00	0.50	0.50
M1_linearsvc	0.50	0.51	0.49	0.50	0.50	0.50
M1_linearsvc_GridS	0.50	0.51	0.49	0.50	0.50	0.50

Cada modelo se ha utilizado en diferentes tratamientos de datos:

- Datos sin tratar
- Eliminar columnas más correlacionadas
- Escalar los datos
- Combinaciones de las anteriores



Modelo Definitivo

Random Forest

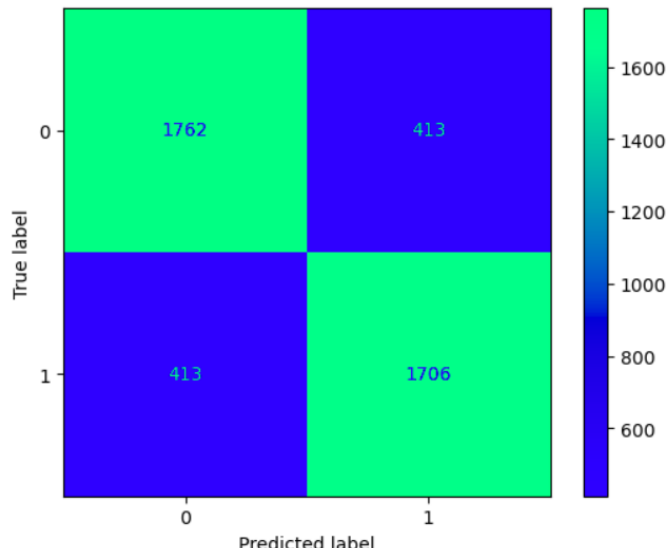
- Con los datos casi en bruto (solo tratando las categóricas)
- Sin eliminar columnas correlacionadas ni aplicar un escalado en los datos.
- Sin modificar hiperparámetros



Partidas de 15 min

Report

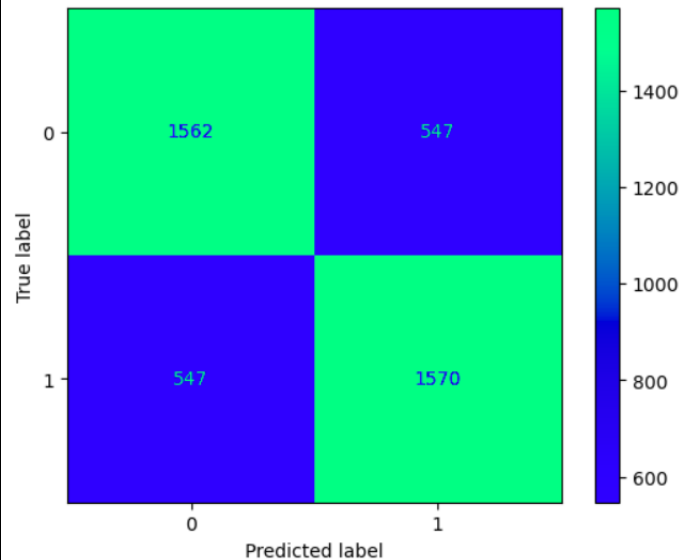
	precision	recall	f1-score	support
0	0.81	0.81	0.81	2175
1	0.81	0.81	0.81	2119
accuracy			0.81	4294
macro avg	0.81	0.81	0.81	4294
weighted avg	0.81	0.81	0.81	4294



Partidas de 10 min

Report

	precision	recall	f1-score	support
0	0.74	0.74	0.74	2109
1	0.74	0.74	0.74	2117
accuracy			0.74	4226
macro avg	0.74	0.74	0.74	4226
weighted avg	0.74	0.74	0.74	4226





Conclusiones



ADVANCED DETAILS

PROGRESSION

SCOREBOARD



+120 XP
LEVEL



+30 LP
PLATINUM
90 LP



B
+120 PTS
MASTERY 5
123,455

30

Mayor valor
↓
Mejor predicción

★ Smite-A-Lot

30

Menos es más

30

Partidas 15'
↓
Accuracy 81%

★ Baddest

10

Partidas 10'
↓
Accuracy 74%

10

¿Es suficiente?

Julie Beanz joined the lobby.

Tewtsmagewts : ayye!!

Click or Press **Enter** to Chat



CONTINUE

2/4



The image shows a victory screen from the game League of Legends. A large, ornate golden shield with a blue energy aura is centered on the screen. The word "VICTORIA" is written in a bold, golden, serif font across the center of the shield. Below the shield, a brown, pill-shaped button contains the word "GRACIAS" in white, sans-serif capital letters. The background is a dark, stone-like surface with blue energy lines and some small, blue, winged creatures in the bottom left corner.

VICTORIA

GRACIAS