

Tabla 3. Espacio de búsqueda de hiperparámetros para algoritmos de *boosting* optimizados por Optuna.

Algoritmo	Hiperparámetro	Valor mínimo	Valor máximo
AdaBoost	n_estimators	10	400
	learning_rate	0.01	0.3
	max_depth	1	9
	min_samples_split	2	1
	min_samples_leaf	1	10
CatBoost	Iterations	10	400
	depth	1	9
	learning_rate	0.01	0.3
	random_strength	0	100
	bagging_temperature	0	10
Gradient Boost	n_estimators	10	400
	max_depth	1	9
	learning_rate	0.01	0.3
	min_samples_split	2	10
	min_samples_leaf	1	10
LightGBM	n_estimators	10	400
	num_leaves	2	20
	subsample	0.4	1.0
	colsample_bytree	0.4	1.0
	min_child_samples	1	10
	learning_rate	0.01	0.3
XGBoost	n_estimators	10	400
	lambda	0.01	100
	max_depth	1	9
	eta	0.01	1.0