

Table 6. The hyperparameter search space for IMN. TabResNet has the same search space without weight normalization.

Hyperparameter	Type	Range	Log scale
<i>nr_epochs</i>	Integer	[10, 500]	-
<i>learning_rate</i>	Continuous	[1e-5, 1e-1]	✓
<i>batch_size</i>	Categorical	[32, 64, 128, 256, 512]	-
<i>weight_decay</i>	Continuous	[1e-5, 1e-1]	✓
<i>weight_norm</i>	Continuous	[1e-5, 1e-1]	✓
<i>dropout_rate</i>	Continuous	[0, 0.5]	-

Table 7. The hyperparameter search space for logistic regression.

Hyperparameter	Type	Range	Log scale
<i>C</i>	Continuous	[1e-5, 5]	-
<i>penalty</i>	Categorical	['l2', 'none']	-
<i>max_iterations</i>	Integer	[50, 500]	-
<i>fit_intercept</i>	Categorical	['True', 'False']	-

Table 8. The hyperparameter search space for a decision tree.

Hyperparameter	Type	Range	Log scale
<i>criterion</i>	Categorical	['Gini', 'Entropy']	-
<i>max_depth</i>	Integer	[1, 21]	-
<i>min_samples_split</i>	Integer	[2, 11]	-
<i>max_leaf_nodes</i>	Integer	[3, 26]	-
<i>splitter</i>	Categorical	['Best', 'Random']	-

Table 9. The hyperparameter search space for CatBoost.

Hyperparameter	Type	Range	Log scale
<i>learning_rate</i>	Continuous	$[1e - 5, 1]$	✓
<i>random_strength</i>	Integer	$[1, 20]$	-
<i>l2_leaf_reg</i>	Continuous	$[1, 10]$	✓
<i>bagging_temperature</i>	Continuous	$[1e - 6, 1]$	✓
<i>leaf_estimation_iterations</i>	Integer	$[1, 20]$	-
<i>iterations</i>	Integer	$[100, 4000]$	-

Table 10. The hyperparameter search space for Random Forest.

Hyperparameter	Type	Range	Log scale
<i>criterion</i>	Categorical	$['Gini', 'Entropy']$	-
<i>max_depth</i>	Integer	$[1, 21]$	-
<i>min_samples_split</i>	Integer	$[2, 11]$	-
<i>max_leaf_nodes</i>	Integer	$[3, 26]$	-
<i>n_estimators</i>	Integer	$[100, 4000]$	-