

Random Forest Result #149 — Analysis Report

Generated 2026-09-21 02:37:50 · 1 run(s) · CAT-G Data Analyzer

1. random forest (#149)

2026-09-21 02:16:12 · random_forest · status: completed

The model explains 0.0% of the variance in the target — worse than simply predicting the mean; treat predictions as unreliable.

task_type	regression
r2_mean	-0.127684
r2_std	0.430563
mse_mean	3.420748
mse_std	0.823789

permutation importance

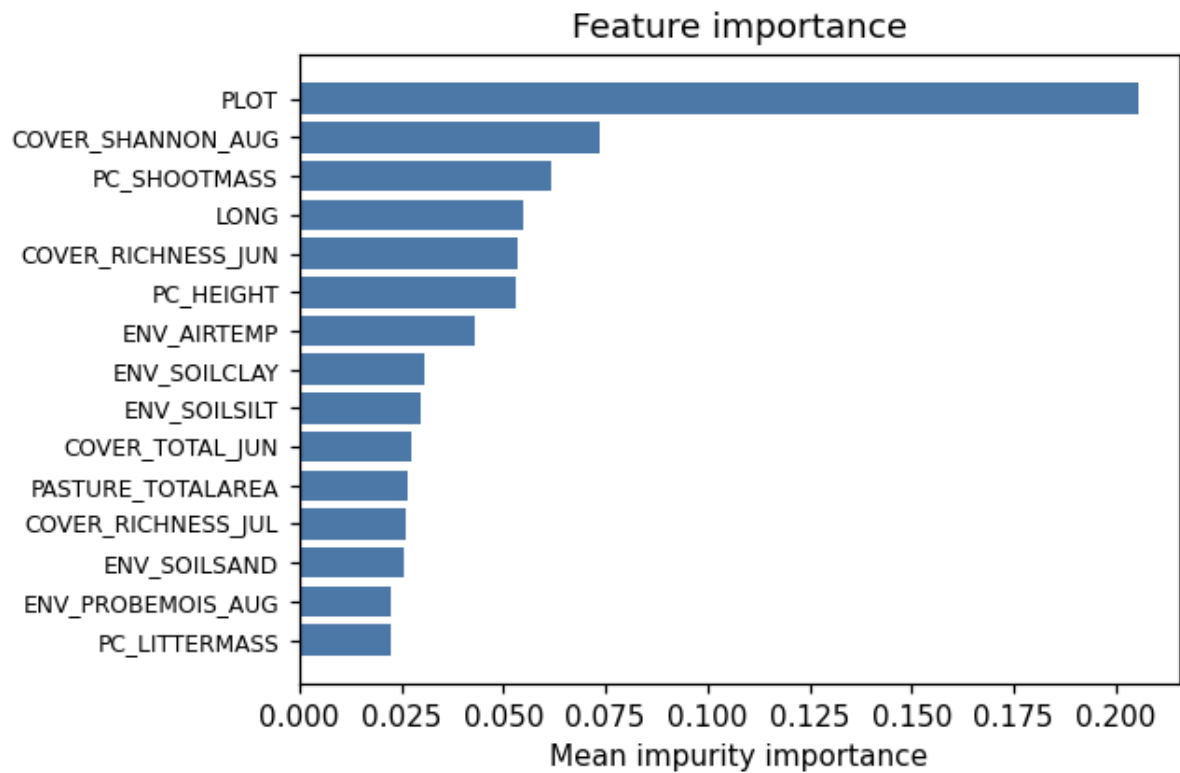
name	mean	std
PLOT	0.016337	0.003928
ENV_SOILNH4	0.004143	0.002695
ENV_SOILNO3	0.007993	0.006056
ENV_SOILP	0.002755	0.00336
ENV_SOILOC	-0.005316	0.003437
ENV_SOILTN	-0.000658	0.003885
ENV_SOILTC	-0.005923	0.008819
ENV_PH	0.00459	0.008166
ENV_SOILCLAY	0.028921	0.009043
ENV_SOILSILT	-0.003407	0.006026

shap importance

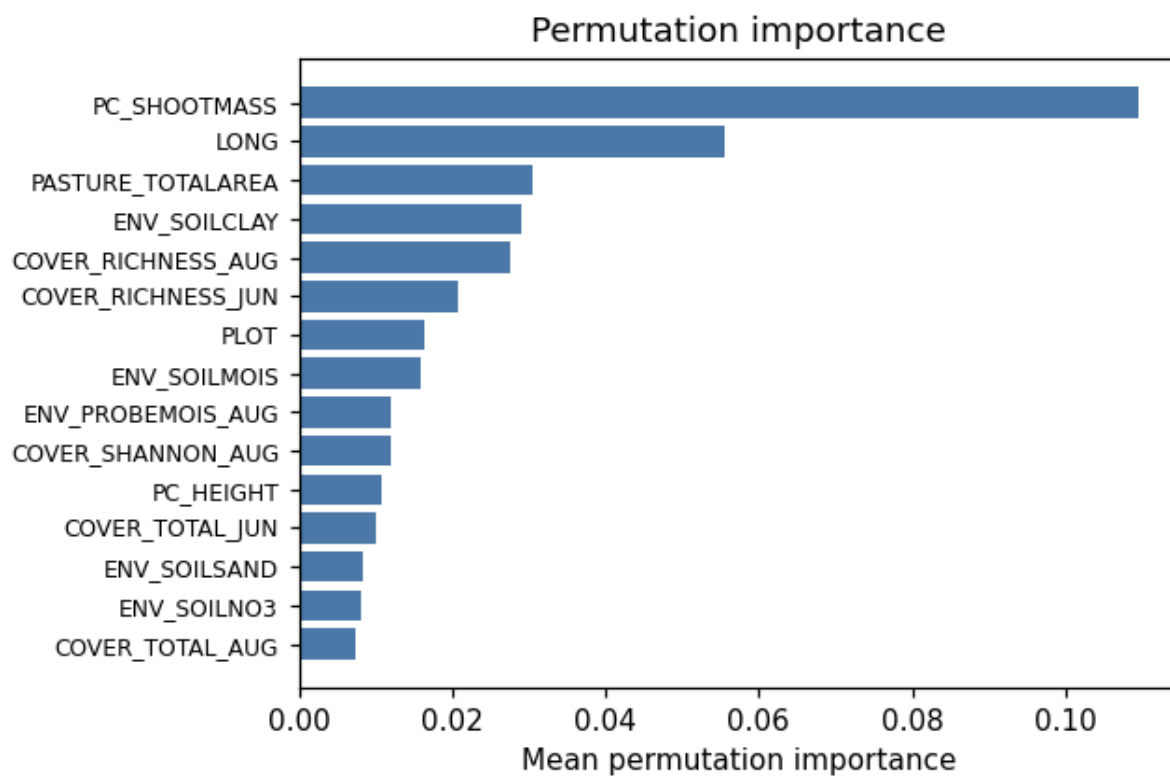
name	mean_abs
PLOT	0.070773
ENV_SOILNH4	0.019476
ENV_SOILNO3	0.028227
ENV_SOILP	0.020736
ENV_SOILOC	0.004994
ENV_SOILTN	0.003569
ENV_SOILTC	0.005338
ENV_PH	0.026288
ENV_SOILCLAY	0.100922
ENV_SOILSILT	0.044507

split metrics

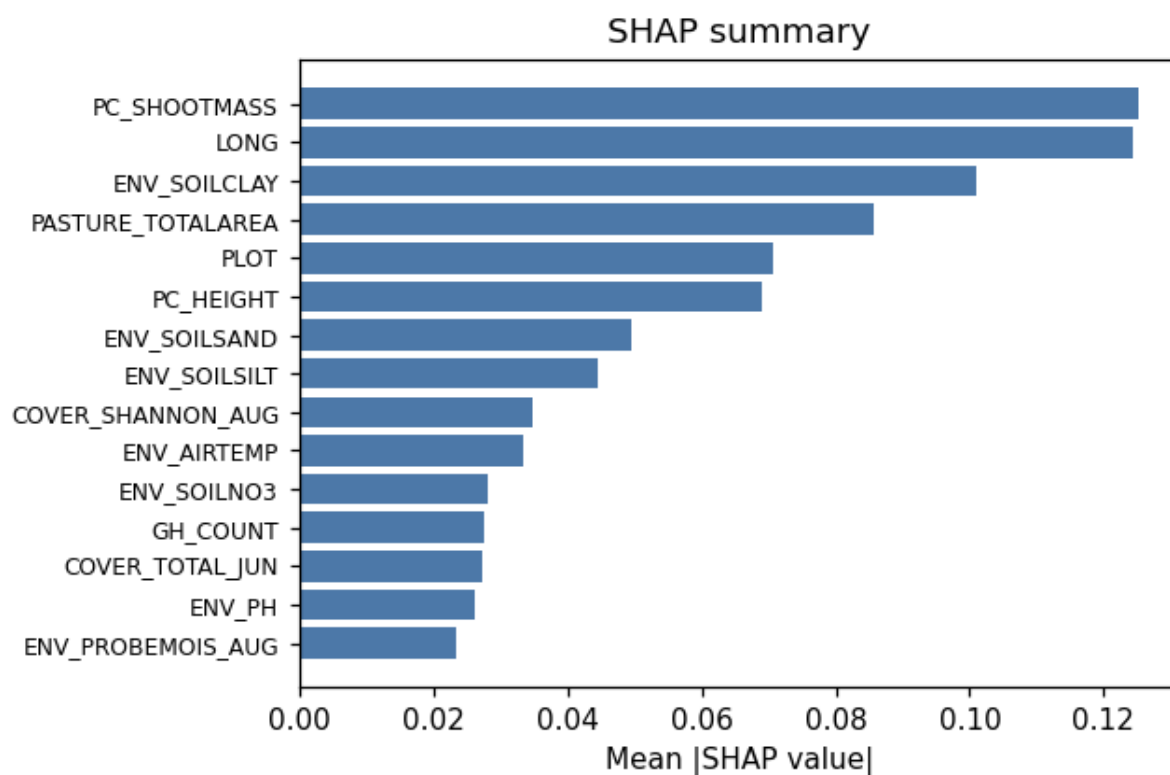
r2	mse
-0.732183	3.698357
0.111214	4.261812
0.237916	2.302074



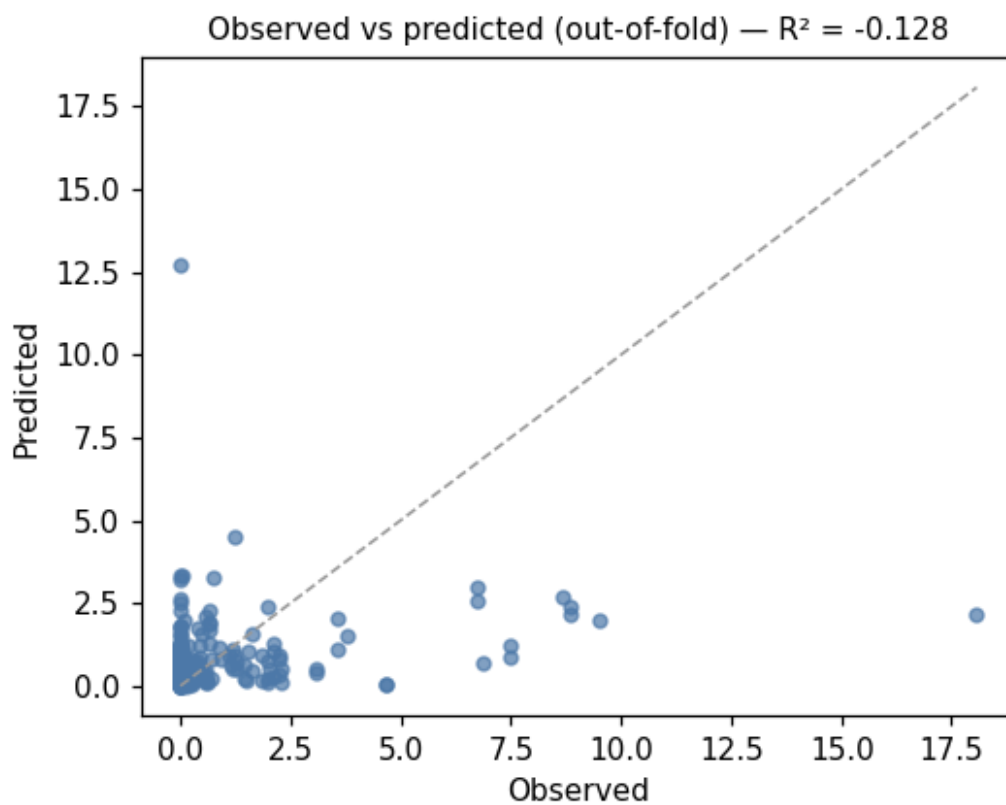
importance bar



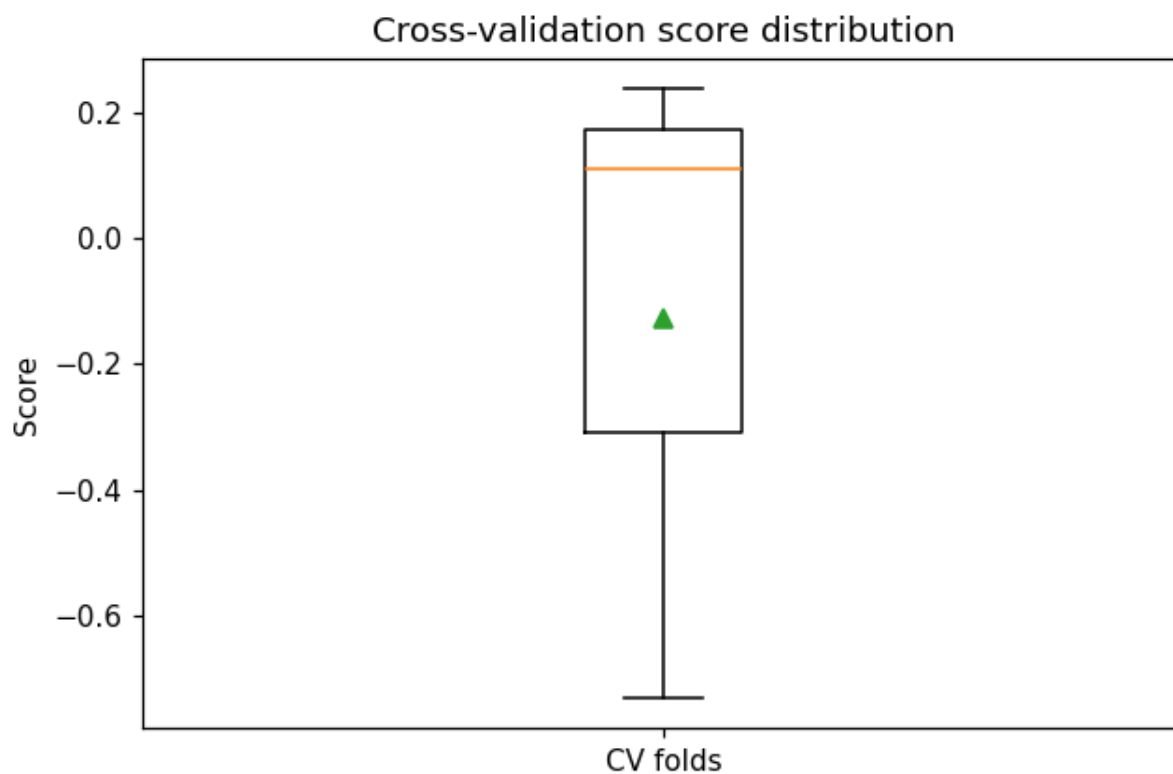
permutation bar



shap summary



pred vs obs



cv boxplot

Method & Provenance

method	Random Forest (Regression)
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engine	Python · scikit-learn 1.8.0
datasets	gallery — catg_example_08_woody_encroachment.csv
started	2026-09-21 02:16:12.854253
permanent link	https://cat-g-omxpert.wishartlab.com/results/by-token/c2d3ecce80614f57be4dc0be42e7

Parameter	Value
task_type	regression
model_type	regression
target_column	PC_WOODMASS
n_estimators	60
n_splits	3
test_size	0.25
run_univariate	True
run_permutation	True
run_shap	True
permutation_repeats	10
fdr_threshold	0.05

Command history

```
# python
from sklearn.ensemble import RandomForestRegressor

# python
model = RandomForestRegressor(n_estimators=60, random_state=42)

# python
scores = sklearn.model_selection.cross_val_score(model, X, y, cv=3)
```