

Random Forest Result #147 — Analysis Report

Generated 2026-09-21 02:37:28 · 1 run(s) · CAT-G Data Analyzer

1. random forest (#147)

2026-09-21 02:15:26 · random_forest · status: completed

The model explains 83.5% of the variance in the target under cross-validation.

task_type	regression
r2_mean	0.835335
r2_std	0.043526
mse_mean	0.76771
mse_std	0.158907

permutation importance

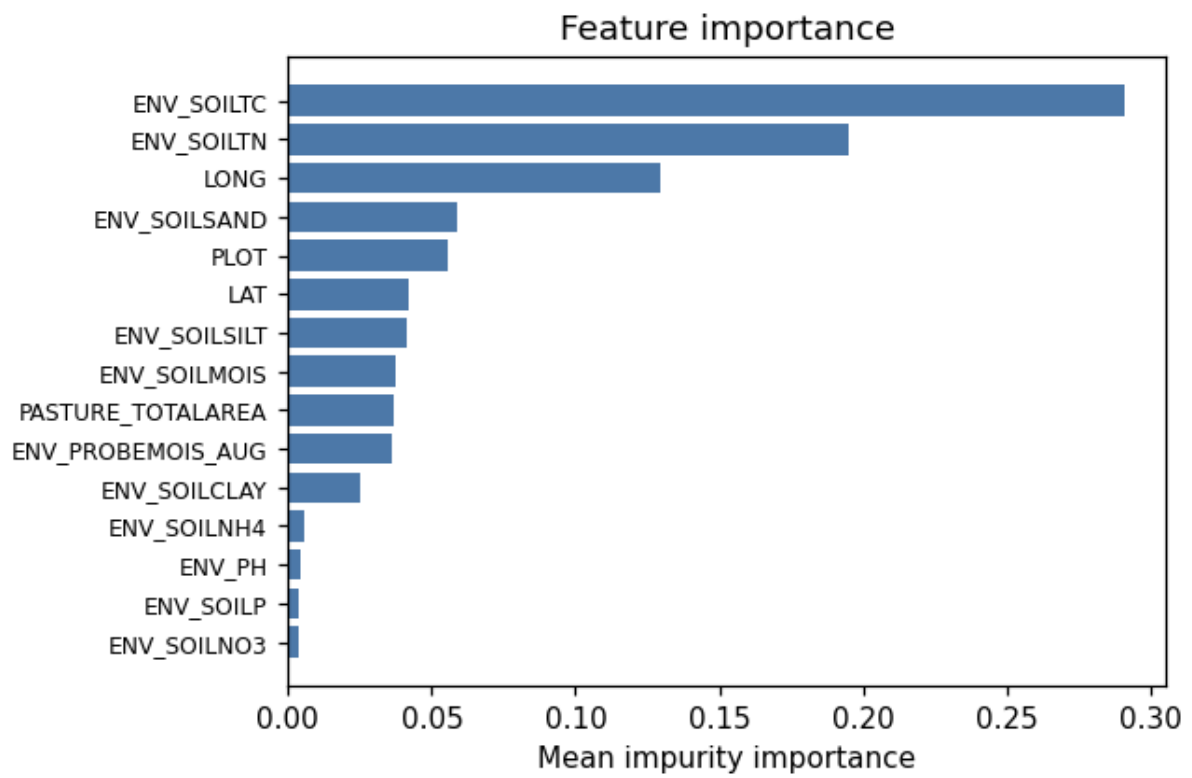
name	mean	std
PLOT	0.011739	0.018022
ENV_SOILNH4	-0.00199	0.003367
ENV_SOILNO3	0.001999	0.000821
ENV_SOILP	-0.001752	0.001491
ENV_SOILTn	0.064514	0.015946
ENV_SOILTC	0.135219	0.012696
ENV_PH	0.002762	0.000874
ENV_SOILCLAY	0.001776	0.004232
ENV_SOILSILT	0.073887	0.018645
ENV_SOILSAND	0.022481	0.00901

shap importance

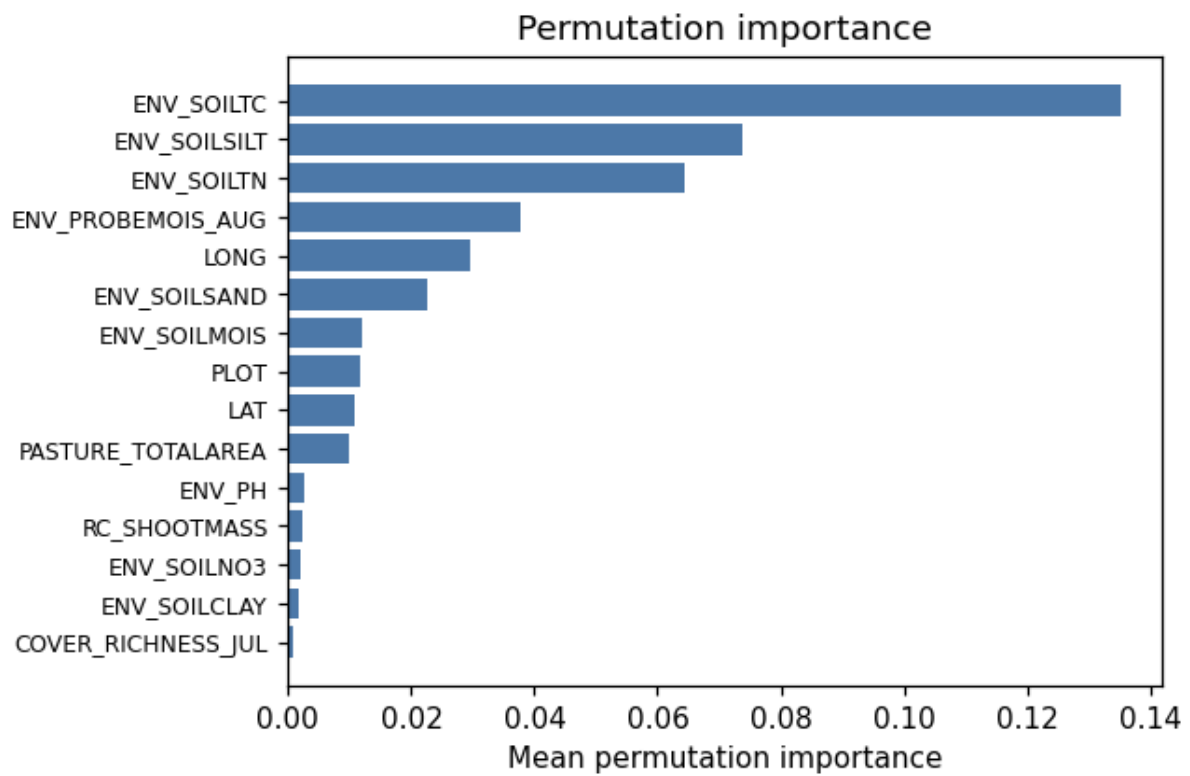
name	mean_abs
PLOT	0.016825
ENV_SOILNH4	0.021395
ENV_SOILNO3	0.011124
ENV_SOILP	0.00914
ENV_SOILTn	0.70218
ENV_SOILTC	0.727751
ENV_PH	0.018506
ENV_SOILCLAY	0.012148
ENV_SOILSILT	0.113804
ENV_SOILSAND	0.074886

split metrics

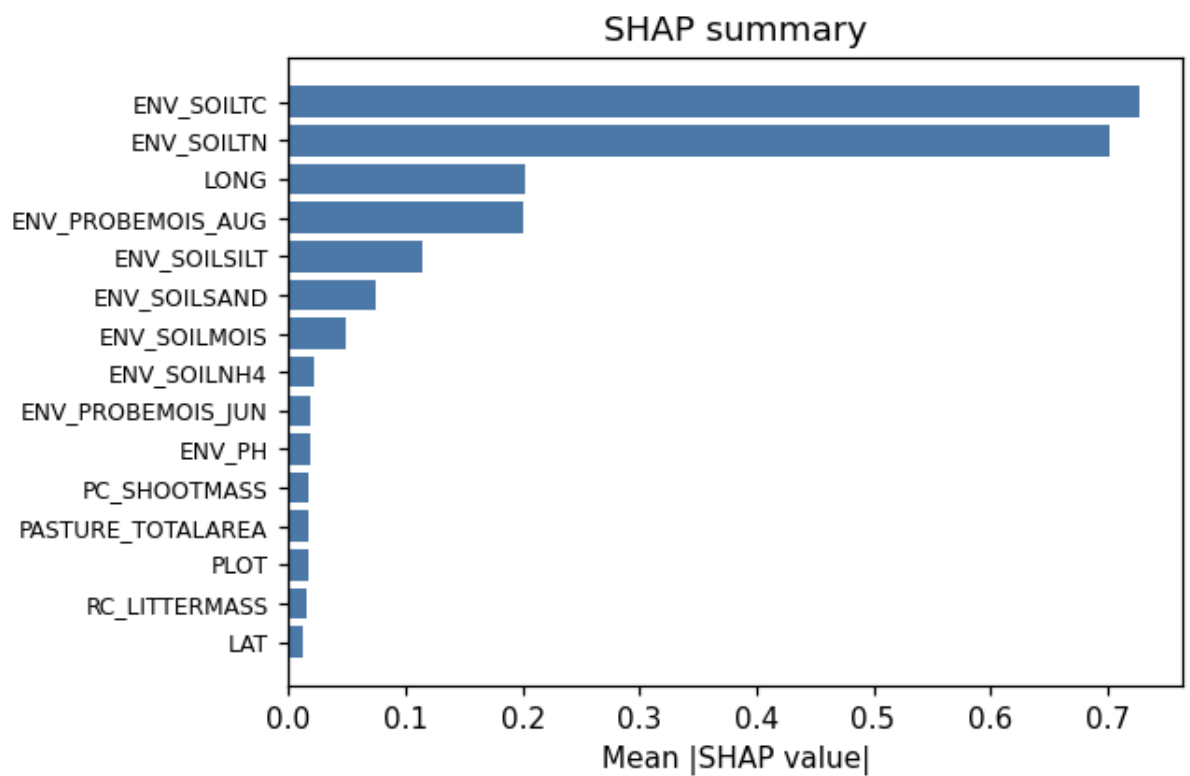
r2	mse
0.867947	0.69667
0.864242	0.618589
0.773817	0.98787



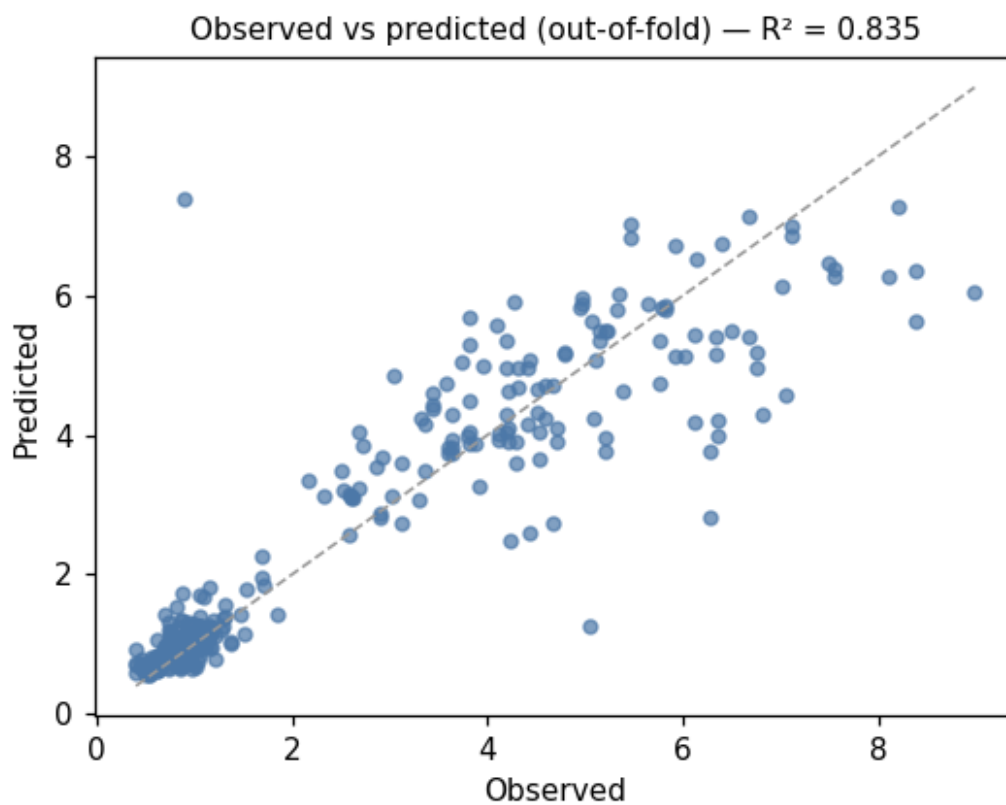
importance bar



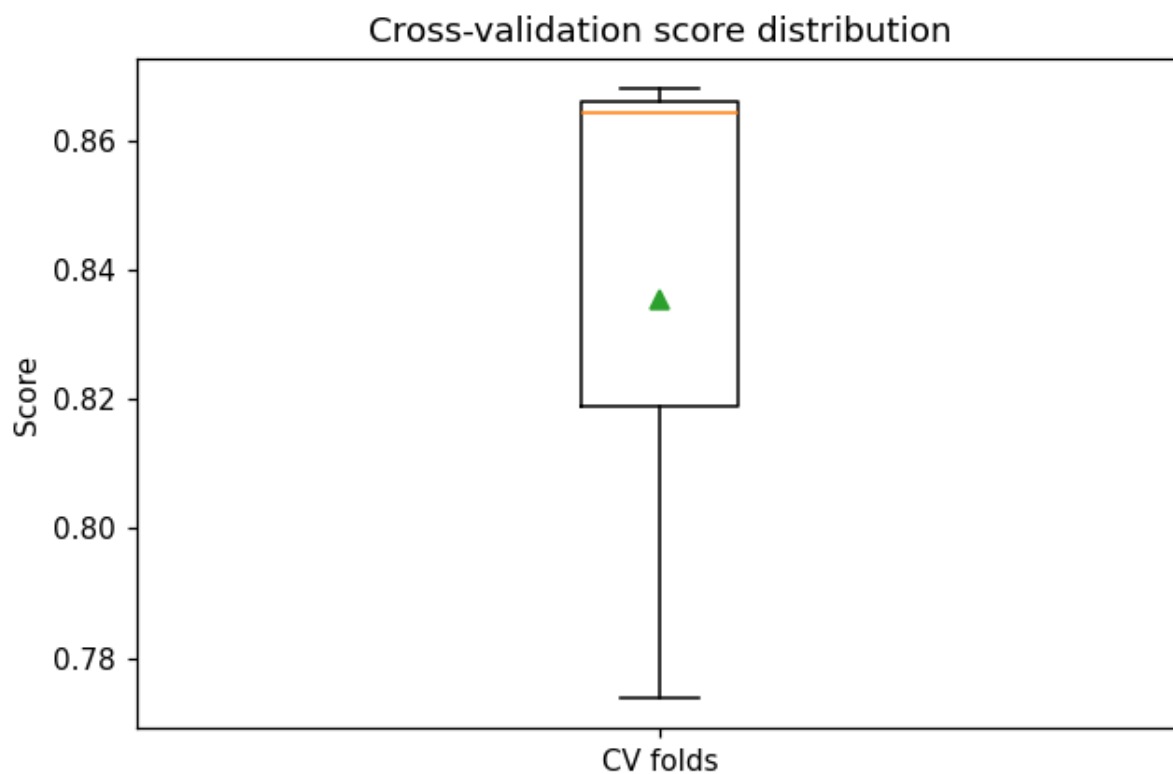
permutation bar



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_06_soil_carbon_credits.csv
started	2026-09-21 02:15:26.727584
permanent link	https://cat-g-omxpert.wishartlab.com/results/by-token/0af7a5128668442fb3b9c296168a

Parameter	Value
task_type	regression
model_type	regression
target_column	ENV_SOILOC
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)
```