

Random Forest Result #143 — Analysis Report

Generated 2026-09-21 02:36:46 · 1 run(s) · CAT-G Data Analyzer

1. random forest (#143)

2026-09-21 02:13:52 · 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	-0.049195
r2_std	0.029871
mse_mean	7.227791
mse_std	0.20578

permutation importance

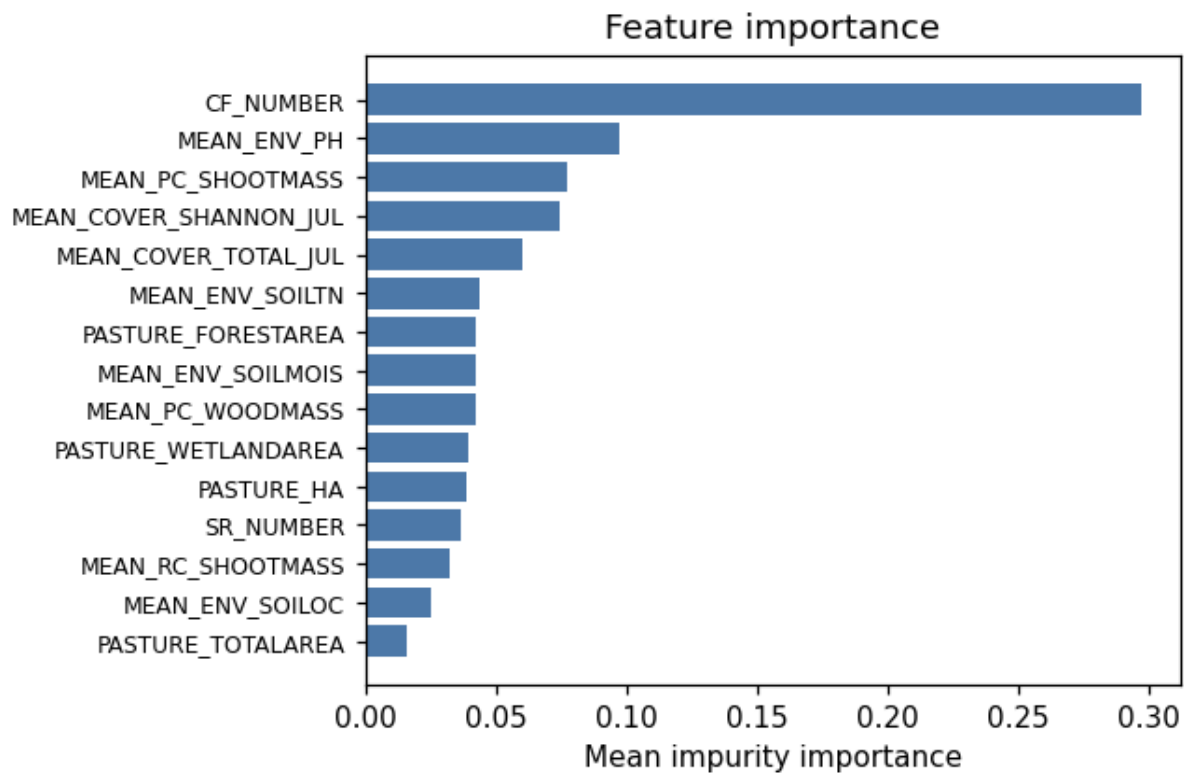
name	mean	std
MEAN_PC_SHOOTMASS	0.084806	0.005584
MEAN_RC_SHOOTMASS	0.130502	0.104911
MEAN_PC_HEIGHT	0.026103	0.019747
MEAN_ENV_SOILOC	0.198789	0.075698
MEAN_ENV_SOILMOIS	0.088199	0.114618
MEAN_ENV_SOILT_N	0.328192	0.01486
MEAN_COVER_TOTAL_JUL	0.132638	0.067458
MEAN_COVER_SHANNON_JUL	-0.027903	0.031621
MEAN_PC_WOODMASS	-0.056028	0.025228
PLOT_COUNT	-0.048951	0.055505

shap importance

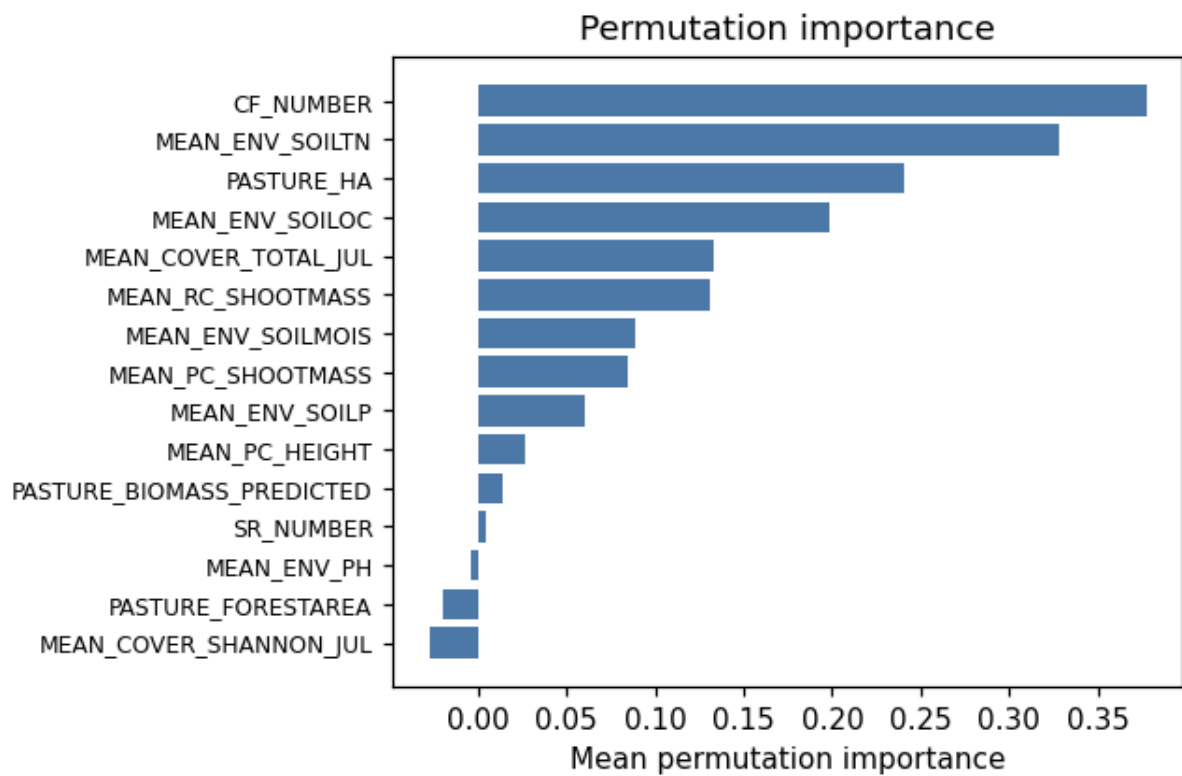
name	mean_abs
MEAN_PC_SHOOTMASS	0.265275
MEAN_RC_SHOOTMASS	0.305043
MEAN_PC_HEIGHT	0.112237
MEAN_ENV_SOILOC	0.108948
MEAN_ENV_SOILMOIS	0.225008
MEAN_ENV_SOILT_N	0.342947
MEAN_COVER_TOTAL_JUL	0.173261
MEAN_COVER_SHANNON_JUL	0.085411
MEAN_PC_WOODMASS	0.228746
PLOT_COUNT	0.009979

split metrics

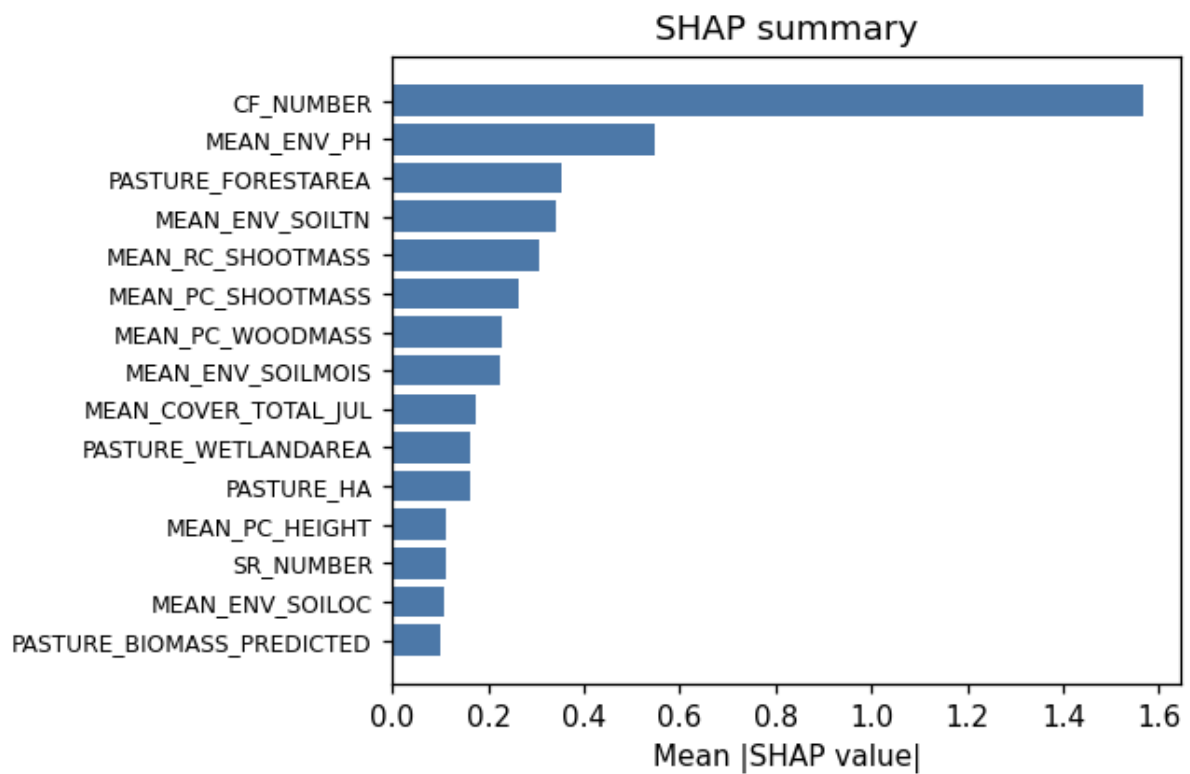
r2	mse
-0.079067	7.43357
-0.019324	7.022011



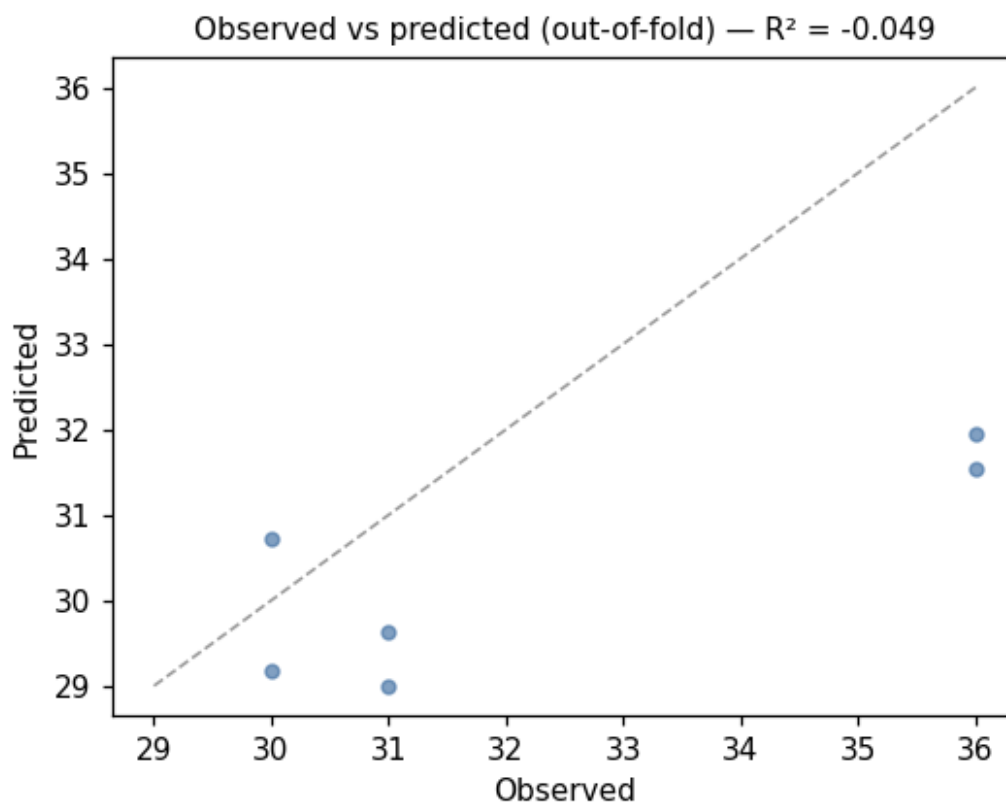
importance bar



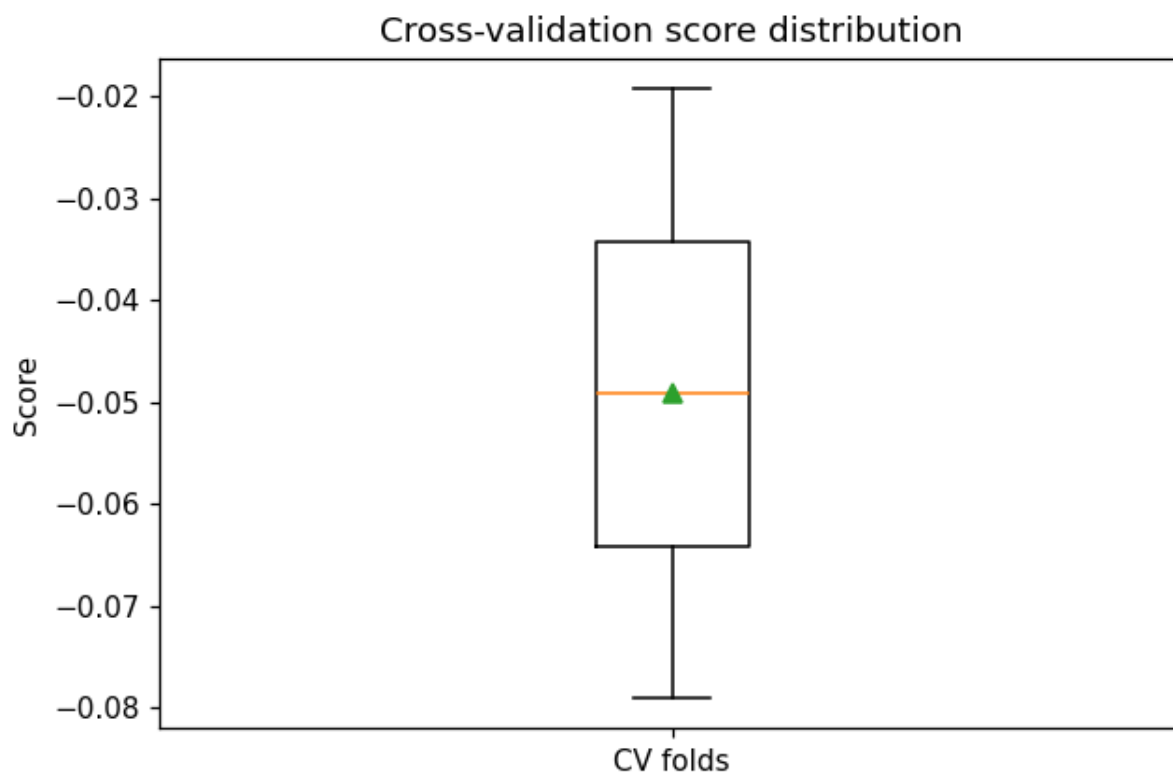
permutation bar



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_02_grazing_carrying_capacity.csv
started	2026-09-21 02:13:52.593069
permanent link	https://cat-g-omxpert.wishartlab.com/results/by-token/c2f085d2764a43e3b8a578284d15

Parameter	Value
task_type	regression
model_type	regression
target_column	CW_NUMBER
n_estimators	60
n_splits	2
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=2)
```