Model Testing with Modeva :: CHEATSHEET

Modeva-AI

Modeva provides a comprehensive library of tests for **model testing** and **model validation**, ensuring conceptual soundness, as well as robust and reliable performance.

Data Quality	Inherent Interpretability	Performance Accuracy	Residual Analysis	Robustness
Feature Selection	Post-hoc Explainability	Fairness	Reliability	Resilience

Refer to the Data Pipeline cheatsheet for **data quality check** and **feature selection**.

INSTALLATION: Modeva Python package

```
pip install modeva
```

TestSuite Class for model testing

```
from modeva import TestSuite
ts = TestSuite(ds, model)
```

Conceptual Soundness

Inherent interpretability: Modeva-native models only

```
ts.interpret_fi()
ts.interpret_effects()
ts.interpret_local_fi()
```

Post-hoc explainability: model-agnostic

```
ts.explain_pfi()
ts.explain_hstatistic()
ts.explain_pdp()
ts.explain_ale()
ts.explain_lime()
ts.explain_shap()
```

Performance Accuracy

```
ts.diagnose_accuracy_table()
ts.diagnose_slicing_accuracy()
```

Fairness Testing

```
ts.diagnose_fairness()
ts.diagnose_slicing_fairness()
ts.diagnose_mitigate_unfair_binning()
```

Residual Analysis

```
ts.diagnose_residual_analysis()
ts.diagnose_residual_interpret()
ts.diagnose_residual_cluster()
```

Overfitting Analysis

```
ts.diagnose_slicing_overfit()
```

Reliability Testing

```
ts.diagnose_reliability()
ts.diagnose_slicing_reliability()
```

Robustness Testing

```
ts.diagnose_robustness()
ts.diagnose_slicing_robustness()
```

Resilience Testing

```
ts.diagnose_resilience()
```