



ACM SIGCOMM 2023 Tutorial: Closed-Loop “ML for Networks” Pipelines

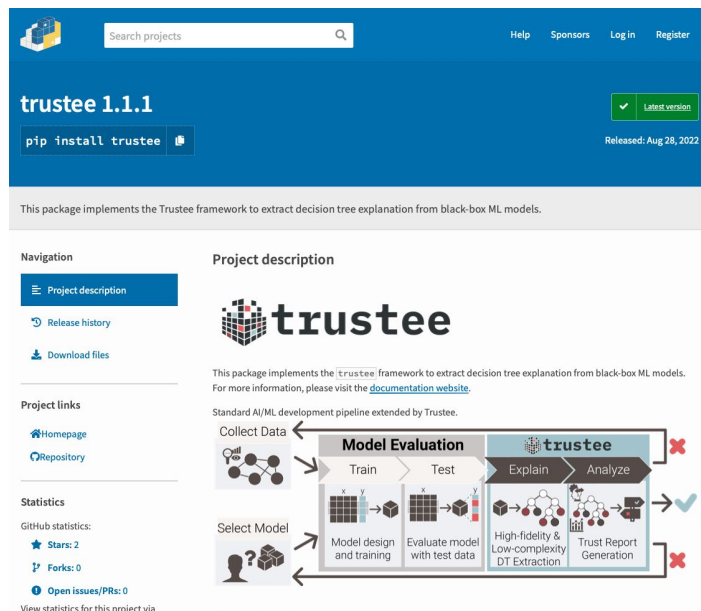
“Is my ML model wrong?” Using Trustee in Practice

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Trustee Python package



The screenshot shows the PyPI page for the **trustee 1.1.1** package. The header includes a search bar, links for Help, Sponsors, Log in, and Register. The package name **trustee 1.1.1** is prominently displayed, along with a green checkmark indicating it's the latest version and a button to `pip install trustee`. Below this, it states "Released: Aug 28, 2022". A description at the bottom reads: "This package implements the Trustee framework to extract decision tree explanation from black-box ML models." The left sidebar contains navigation links: Project description (selected), Release history, and Download files. The right section, titled "Project description", includes the Trustee logo and a detailed description of the package's purpose. It also features a diagram of the "Standard AI/ML development pipeline extended by Trustee" and GitHub statistics (Stars: 2, Forks: 0, Open issues/PRs: 0).

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Weekly



Trustee 1.1.1
documentation

Search

API

Examples

TrustReport for Classification
TrustReport for Regression
RegressionTrustee
ClassificationTrustee

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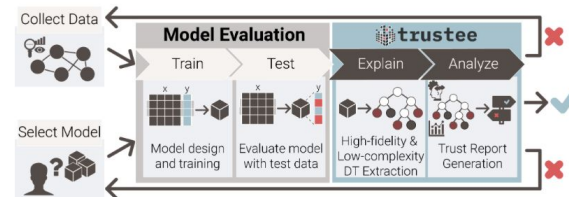
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 Github Repo  Use Cases  Tech Report

Overview

Trustee is a framework to extract decision tree explanation from black-box ML models.



Standard AI/ML development pipeline extended by Trustee.

Getting Started

This section contains basic information and instructions to get started with Trustee.

Python Version

Trustee supports Python ≥ 3.7 .

Install Trustee

Use the following command to install Trustee:

```
$ pip install trustee
```

Sample Code

```
from sklearn import datasets
from sklearn.ensemble import RandomForestClassifier
from sklearn.model_selection import train_test_split
from sklearn.metrics import classification_report
```

Trustee Python package

- Install the Trustee package
 - `pip install trustee`
- What does Trustee expect from the black-box model?
 - A method `predict` (Trustee allows you to specify a different name though)

Trustee Python package

- What does Trustee provide?
 - A class `ClassificationTrustee`
 - for classification models
 - A class `RegressionTrustee`
 - for regression models
 - A class `TrustReport`
 - for generating trust reports

Trustee Python package

- Main methods
 - `fit(12 parameters)`
 - Trains Decision Tree to imitate the expert model.
 - `explain(top_k=10)`
 - Returns explainable model that best imitates the expert model, based on highest mean agreement and highest fidelity.
 - Many others that we will not cover in this tutorial

Trustee Python package

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Hands-on exercises
Colab Jupyter notebooks