

Quick Start Guide

Installation (via Dockerfile)

To build and run from source code, check out the User Manual.

1 Requirements

System

- OS Ubuntu 22.04
- CPU > 4 cores
- Memory > 16GB
- Free Space > 10GB

Software

Docker

2 Build

Download `compose.yaml` file to setup docker build.

wget https://raw.githubusercontent.com/aiverifyfoundation/aiverify/refs/heads/main/deployment/ docker-compose/compose.yaml

Ensure this file is in the same folder where you install and start services.

3 Install and Start Services

1 For Manual Test Execution and upload, use

docker-compose -profile portal up -d

2 For Automated Test Execution via Portal, use

docker-compose -profile portal -profile automated-tests-venv up -d

3 Open http://localhost:3000

Prepare Input Files

The AI Verify Toolkit supports technical tests for these models & datasets:

- Decision Tree

- Random Forest

- Perceptron

- Bagging Classifier

Tensorflow 2.12.0

- Keras Sequential

XGBoost 1.7.5

- XGB Classifier

- torch.nn.Module

Pvtorch

- Gradient Boosting Classifier

- **Binary Classification Multiclass Classification** Scikit-Learn 1.2.2 Scikit-Learn-1.2.2 - Logistic Regression
- Logistic Regression - Decision Tree
- Gradient Boosting Classifier
- Random Forest
- Bagging Classifier
- Perceptron Tensorflow 2.12.0
- Keras Sequential
- XGBoost 1.7.5
- XGB Classifier
- XGB Booster
- LightGBM 3.3.5
- LGBM Classifier
- Pytorch torch.nn.Module

Dataset Formats Supported

Tabular: Pandas, Delimiter-separated Values (comma, tab, semicolon, pipe, space, colon) Image: .jpeg, .jpg, .png

Running Tests

Running Tests via Command Line

1 Install the Algorithm

pip install aiverify-accumulated-local-effect

2 Run the Test

Replace <PATH_TO_FOLDER> with the actual path to your files.

3 Check out put

Output folder will contain results.json and other artefacts (images).

4 Upload results

Zip the entire output folder and upload to portal for further analysis and reporting.

Regression Scikit-Learn 1.2.2 - Linear Regression - Decision Tree - Gradient Boosting Classifier - Random Forest Regression Tensorflow 2,12,0 - Keras Sequential XGBoost 1.7.5 - XGB Regressor Pvtorch - torch.nn.Module

You will need the following files:

AI Model or Pipeline

The prediction model to be tested. You can include any data pre-processing as part of a pipeline. (only scikit-learn pipelines are supported) Testing Dataset Any dataset to be used for Testing Ground Truth Dataset* A dataset that contains the ground truth. For image datasets,

this is the annotated ground truth file and should contain the image file names and ground truth. Background Dataset* A dataset that is representative of the dataset's population.

* The Testing Dataset can be used if it fulfils the requirements.

Running Tests via Al Verify Portal

Prerequisites

Ensure the following services are running:

- Test Engine Worker: At least one worker must be active. - Valkey service: Required for task queue

1 Upload the Model

Navigate to Homepage > Manage > Models > Upload Model. Follow on-screen instructions to upload model file to be tested.

2 Upload the Dataset

Navigate to Homepage > Manage > Data > Upload Dataset Follow on-screen instructions to upload test and ground truth datasets to be tested.

3 Run the Test

Navigate to Homepage > Manage > Test Results > Run New Tests Configure test parameters and initiate the test.

4 View results

Upon successful completion, results will be uploaded to the portal.

Completing AI Verify Process Checklist & Fairness Tree

To complete AI Verify Process Checklist

1 Access the Checklist Section Navigate to Homepage > Manage > User Inputs > AI Verify Process Checklists

2 Create or Update Checklist

To create a New Checklist: Select **"Add Checklists".** To update an existing checklist, select an existing checklist to update it.

3 Fill in the Checklist

- Click on each checklist item to provide the required information. - Use the **sidebar on the left** to track your progress.

4 Export or Import Checklists (Optional)

- Export to Excel: Export the AI Verify checklists to an Excel file for offline editing. - Import from Excel: Import an updated checklist from an Excel file. To select the Fairness Tree Using Fairness Metrics

1 Access the Fairness Tree Section

Navigate to **Homepage > Manage > User Inputs > Fairness Tree.** Follow on-screen instructions to upload model file to be tested.

2 Select Fairness Metrics Follow the on-screen instructions to select the appropriate fairness metrics. Ensure the test is a **"fairness classification test"**, as this feature is only applicable for Classification models.

Generating the AI Verify Report

1 Create a New Project

Navigate to Homepage > Create New Project Enter the Project Name, Description, Title and Name. Select the template "AI Verify Summary Report Template for Classification Models".

2 Configure User Inputs

- Navigate to Homepage > Manage > User Inputs, select:
 - Al Model to test
 - Test Results uploaded to the portal.
 Al Verify Process Checklists
 - Fairness Tree records (if applicable).
- Click the **Next** button to proceed.

3 View and Download the Report

- The web report will be generated and displayed.

- Use the Print button to download the report in your preferred format.