

## IRBAI AUDIT - DATA (AD-T1)

The International Regulatory Body for AI (IRBAI) has developed a framework to ensure transparency, accountability, and the responsible use of data in AI systems.

### Performing the Audit:

This document outlines the specifications for conducting an audit of data used in AI systems. The purpose of this audit is to ensure the integrity, quality, and compliance of the data utilized in AI models. The audit process involves accessing the data, gathering relevant information, and evaluating it independently using the IRBAI Data Audit system. The resulting report will be published to provide transparency and facilitate improvements to the AI system. The duration of the audit will vary depending on the size of the data under examination.

### Data Access

To initiate the audit, the person responsible for the data must provide access to the dataset being used in the AI system. Access can be granted through one or more of the following methods:

- a. Loading Data to Server: The person can transfer the data to a designated server for inspection by the audit team. The data should be securely transferred to maintain confidentiality and integrity.
- b. Special SSH Key: Alternatively, the person can grant access to the data by providing a special SSH key that allows secure remote access to the data stored on their system. This method ensures controlled access to the data without physically moving it. (Note: Other options for granting access to the data may be available and should be specified here, if applicable.)

## Questionnaire

Upon accessing the data, the person responsible for the data must complete a questionnaire to provide essential information for the audit. The questionnaire should include the following indicatives and corresponding answer options:

INDICATIVES		ANSWERS
Data Handling	How was the data obtained?	[Manual collection, Web scraping, API integration, Other]
ID Removal & Anonymization	Can identification be derived or user data recovered?	[Yes, No, Not applicable]
Data Security	How secure is the data?	[Highly secure, Moderately secure, Not secure]
Data Privacy Policy & Data Source	Has data privacy been breached?	[Yes, No, Not applicable]
Regularization Techniques	What techniques were used for regularization?	[L1 regularization, L2 regularization, Dropout, Data augmentation, Other]

What algorithms were used?	What algorithms were employed for regularization?	[Ridge regression, Elastic net, Ensemble methods, Other]
Data Screening	What screening measures were taken?	[Data cleaning, Outlier removal, Missing value imputation, Other]
Bias	Has bias been addressed in the data?	[Yes, No, Partially]
Language	Are there language biases or considerations?	[Yes, No, Not applicable]
Fairness	How was fairness considered in the data?	[Stratified sampling, Demographic parity, Preprocessing techniques, Other]
Noise Removal	What techniques were used for noise removal?	[Smoothing filters, Dimensionality reduction, Outlier detection, Other]
Blacklisted Sets	Was blacklisted or irrelevant data excluded?	[Yes, No, Not applicable]
Data Screening Process Documentation	Is the data screening process properly documented?	[Yes, No]

Type of Data Set	What are the dimensions, formats, and size of the dataset?	[Dimensions: [e.g., 1000x50], Formats: [e.g., CSV, JSON], Size: [e.g., 10 GB]]
Data Quality	How would you evaluate the data accuracy, completeness, and consistency?	[High, Medium, Low]
Data Diversity	Does the dataset adequately represent different scenarios, demographics, or categories relevant to the AI application?	[Yes, No, Partially]
Ethical Considerations	Does the data collection and usage comply with ethical standards and informed consent?	[Yes, No, Not applicable]
Data Versioning and Tracking	Is there a system in place to track and manage different versions of the dataset?	[Yes, No, Partially]
Data Validation and Verification	What techniques were used for data validation?	[Cross-referencing with external sources, Expert reviews, Statistical analysis, Other]
Model Performance Metrics	What metrics are used to assess the performance of the model?	[Accuracy, Precision, Recall, F1 score, Other]

## **Evaluation**

Once the data is accessible by the IRBAI Data Audit system, it will undergo an independent evaluation. The audit team will analyze the data, assess its quality, validity, and compliance with applicable regulations and standards. The evaluation process will be conducted in an objective and impartial manner.

## **Audit Report and Publication**

After completing the audit, a comprehensive report will be generated, detailing the findings, recommendations, and any identified issues related to the data used in the AI system. The report will be published to the IRBAI platform and will present the transparency and if needed advise on improvements in data management and AI system performance. The report will include anonymized examples and statistics to support the conclusions drawn during the audit.

## **Audit Duration**

The length of the audit will vary depending on the size and complexity of the data being audited. A timeline for the audit process will be established based on the specific requirements of each audit, ensuring sufficient time for thorough analysis and evaluation.