AyGLOO: AI Observability

Solution Description

AyGLOO offers a "no-code" AI Observability solution designed to monitor, analyze, and understand the performance of traditional Machine Learning systems. Its intuitive design facilitates early error detection and provides a clear understanding of AI decision-making mechanisms, thereby strengthening confidence in decision-making. Additionally, it promotes transparency and accountability in the development of artificial intelligence systems.

Identified Problem

It addresses key AI challenges such as (i) model performance degradation, (ii) lack of transparency in decision-making mechanisms, (iii) detection and mitigation of biases and errors, (iv) difficulties in continuous monitoring, and (v) operational issues in production environments.

Differential Value Proposition

AyGLOO stands out from competing solutions like WhyLabs, Arize, or Fiddler by offering:

1

Proprietary Explainable AI (XAI)

Exclusive features, some already published in high-impact international scientific journals, and others unpublished to preserve competitive advantage.

2

Personalized Services

A flexible proposal of professional services that ensure the full or partial deployment of the solution, tailored to each client's needs, with the option to also develop the model.

3

Broad technological integration

Compatibility with a wide range of models and technologies, ensuring applicability in various environments.

4

On-Premise Deployment

We offer on-premise deployment to ensure the confidentiality, integrity, availability, and traceability of data, in line with internal company policies and compliance with regulations such as the AI Act, GDPR, and DORA.

5

Transparency and Compliance in High-Risk Systems

It provides clear and understandable explanations about the models, facilitating audit processes with regulatory bodies for systems classified as high-risk.

Key Features of the AyGLOO Solution

1 Explainable AI (XAI)

a..

Transforms complex models into simple rules using surrogate models

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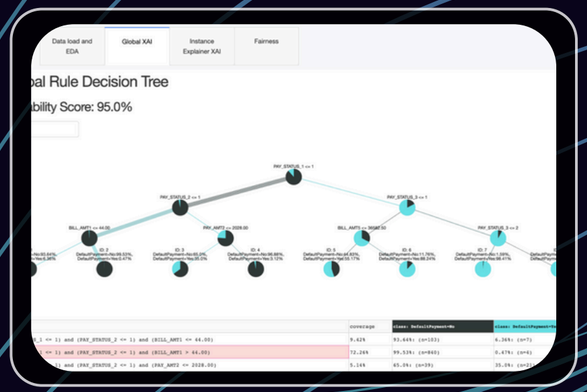
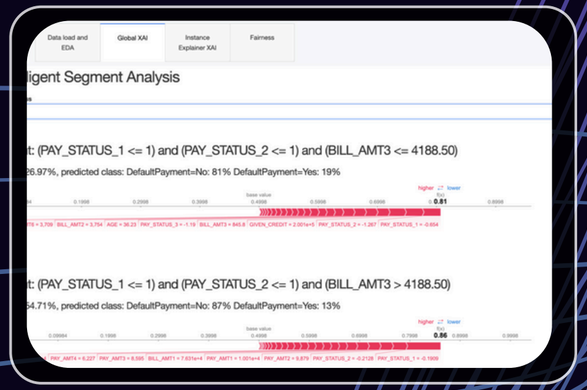
The tool provides an explainability score for each surrogate model.

It is proprietary technology: **Dynamic Surrogate Models.**





b.

Identifies problematic segments

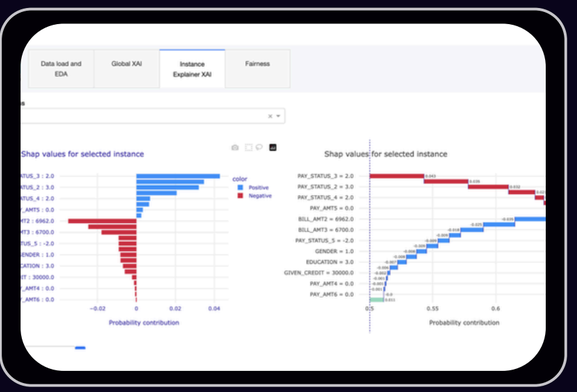
Detects data groups where the AI may exhibit errors, inconsistencies, or biases that require in-depth review.

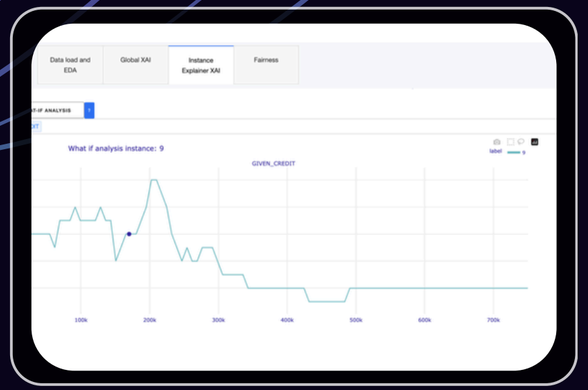
It is proprietary technology: **SHAP - ISA Intelligent Segment Analysis.**

c.

Provides the contribution of variables at all levels

i. Global level, including surrogate models (proprietary technology included in Dynamic Surrogate Models)
ii. Problematic segments (proprietary technology included in SHAP-ISA)
iii. Instance-level with SHAP Values technology.





d.

Additional intuitive analyses

i. Counterfactuals to explore what minimal changes in input variables would be needed to alter the model's prediction.
ii. What-if to explore how the model's predictions change when modifying input values.

Key Features of the AyGLOO Solution

2 Fairness Analysis

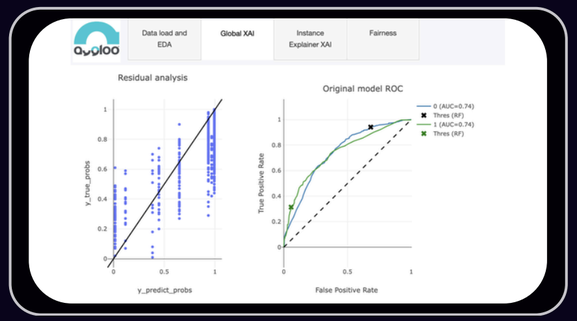
a. Detection of biases in the **model, data, and segments.**
b. Analysis with bias and fairness metrics by **protected variables.**
c. Automatic detection of **biased variables and fairness metrics** based on protected variables.
d. Analysis of predefined population segments to assess the model's fairness across different **subgroups.**
e. Mitigation of biases and inequities in the model.

3 Analytics

a. Dashboard with **intuitive and interactive charts:**
i. Centralized visualization that allows organizational teams to **understand model metrics** and how they relate to business performance indicators (KPIs).
ii. Custom reports with the information needed to deeply understand the models and their **impact on business outcomes**, from monitoring metrics and distributions to partial dependence plots.
iii. Root Cause Analysis: Segment analysis to determine why the model is not performing as expected.
b. Model Validation: Model performance evaluation and validation before deploying it into production.

4 Model Monitoring

a. Includes monitoring of statistical measures and metrics such as **accuracy, recall, data drift, and errors.**
b. Tracks model performance and accuracy with ready-to-use metrics, including models for:
i. Binary classification, multiclass classification, and regression
ii. Unstructured data models such as natural language processing (NLP) and computer vision (CV) (in progress)
iii. **Graph models** (in progress)
c. Allows the configuration of alerts.



Benefits
for Different Areas of the Company

For the AI Technical Team

- It optimizes their time by freeing them from repetitive and daily operational tasks, allowing them to focus on implementing strategic AI solutions.
- It offers a flexible proposal that allows for full or partial deployment of the solution, adapting to specific needs.
- It prevents unforeseen workload spikes.

For the Business Team

PProvides an intuitive tool that aligns machine learning (ML) with business objectives, facilitating informed decision-making.

For the Data Governance Team

Provides peace of mind that data always stays within their own infrastructure, minimizing risks associated with GDPR compliance.

For the Compliance Team

Guarantees detailed reports on biases and explainability, ensuring compliance with audits by regulatory bodies and mitigating the risk of penalties in the case of high-risk systems.

Open Proposal

The solution has been deployed in companies within the Healthcare and Media sectors, as well as in a Proof of Concept with a leading Spanish insurance company.

We are looking for new early adopters using traditional ML in production, whether high-risk or not, offering **competitive benefits and customized solutions** tailored to their needs.