

# TruEra Diagnostics

Creating trust and driving business results with AI explainability and model quality analytics.

A critical obstacle to AI success is the AI chasm -- the gap between model development and model deployment, where models stall due to a lack of trust. Data scientists struggle to explain, defend, and maintain model quality in development and production. Business users and risk teams struggle to assess risk, guard against harms like unfair bias, and ensure that models are effective. TruEra Diagnostics crosses this chasm by building a bridge of trust. Its explainability and model quality analytics finally provide the explanations and metrics that help models demonstrate their value and prove their effectiveness, so that they can get to deployment and stay there.



TruEra provides the visibility you need to understand segment impacts and which features are driving your model, such as in this credit risk model analysis.

## Key benefits

- 
**Achieve model transparency**  
 Finally explain fully how your model works and its key drivers
- 
**Drive model quality**  
 Analyze accuracy, reliability, stability, conceptual soundness, and bias
- 
**Build trust, reduce risk**  
 Easily demonstrate to stakeholders, customers, and regulators the effectiveness, quality, and fairness of your models
- 
**Get into production faster**  
 Accelerate model development, validation, and approvals; easily report and collaborate

# Key capabilities

## Feature Analytics

### Feature importance

Understand which features (model inputs) have the highest average influence on your model. These are the key model drivers.

### Feature trends

See which features have the highest R squared value of the best fit spline.

### Outliers

Clearly see how outliers are occurring and what their level of importance is to the model, including:

- **Influence outliers** - which features have the highest influence of a single point.
- **Categorical outliers** - which feature categories stand out from the rest, in terms of frequency
- **Trend line outliers** - which features have points furthest from the best fit

## Segment Analytics

### Segment accuracies

Understand model accuracy by segment, as well as how each segment is represented in the overall population

### Segment predictions

Understand the overall shape of model predictions for each segment, so that you can quickly see how segments may deviate from one another

### Automated cluster segments

Select between manual segments or clusters that are automatically selected by TruEra.

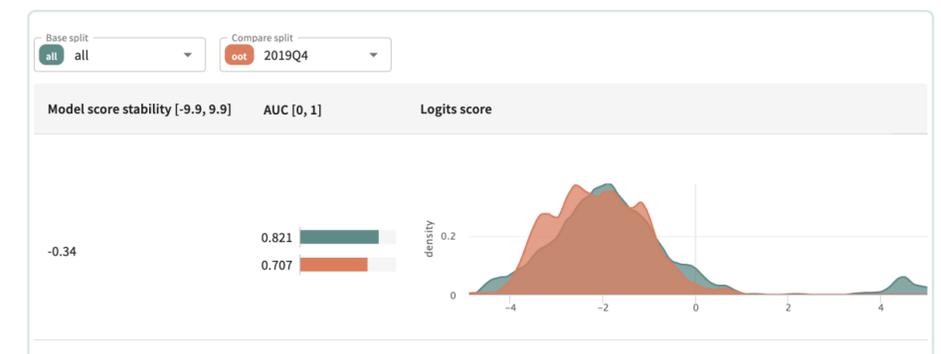
### Feature analytics by segments

Review the feature importance, distribution, and occurrences by segment.

## Model Reliability and Stability

**Model reliability** Gain confidence in they predictions of your model with an in-depth review of logits score, over-reliance, and calibration

**Model stability** Evaluate the ability of your model to perform on datasets beyond the initial training dataset.



### Champion/Challenger Analysis

Easily compare the performance of two models performing against the same data split, to see which better achieves its goals.

### Unparalleled analytical accuracy and speed.

Understand model accuracy by segment, as well as how each segment is represented in the overall population

# Key capabilities

## Bias

Understand how your model is behaving towards different populations, including protected populations. Analyses include:

### Disparate impact ratio

Is your model treating different segments in different ways? How is this group being affected versus the rest of the population? Is this disparity within thresholds or beyond them?

### Feature contribution to disparity

Easily understand the contribution to disparity of the highlighted group relative to the population (or a specific comparison group).

### Data vs. model disparity

A “ground truth” disparity analysis determines if any unfair bias is being caused by the data or the model, so that data science teams know what to fix.

### Model score disparity

Quantify the bias impact of your model to understand the magnitude of variable treatment. This helps you to assess if the impact is significant or not.



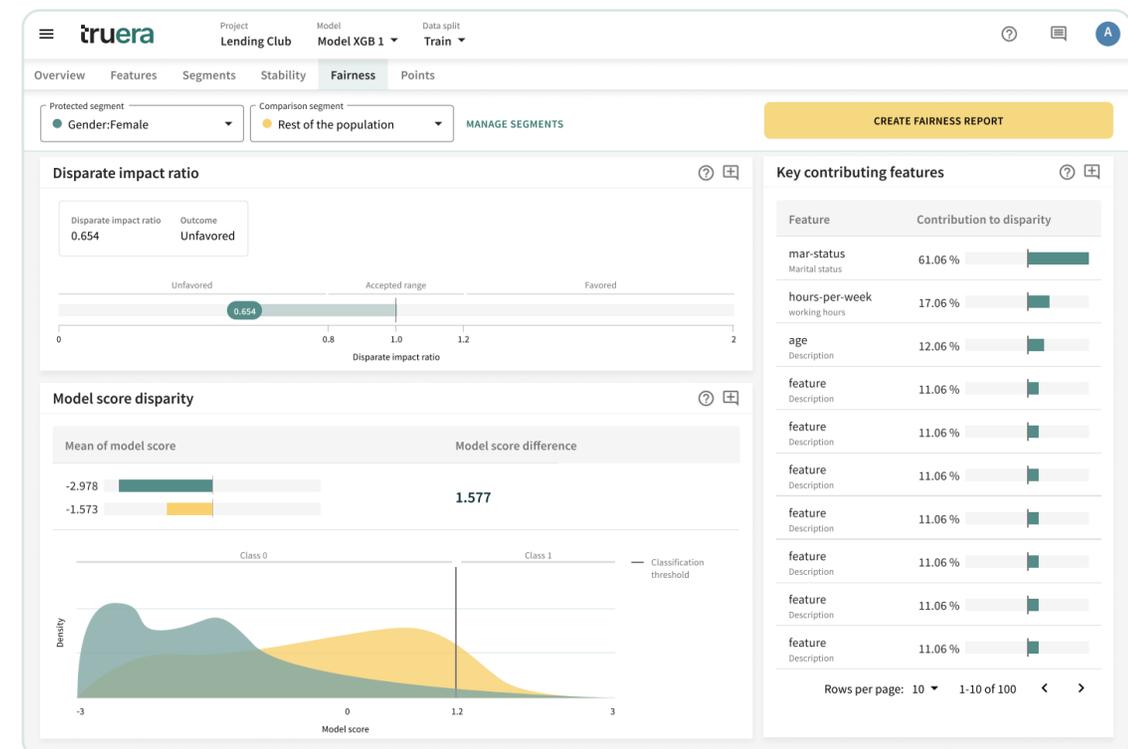
We see TruEra as an essential partner... in how we build and operationalize higher-quality, trusted AI models faster and more efficiently.

- Vishu Ramachandran, Global Head, Retail Banking, Standard Chartered

## Integration and workflow

TruEra is quick and easy to deploy, even in complex enterprise environments.

- **Deploy on-premises or on your cloud, including public cloud** providers like AWS, Google, or Azure.
- **Fast setup and easy user administration** with SSO integration and local TruEra authentication.
- **Easy integration** to data sources, common model development solutions, such as Dataiku, Data Robot, or H20.ai, and model serving solutions
- **Scale quickly** to analyze high volumes of machine learning models and their data
- **Easily export data via APIs** for integrations to applications or business intelligence solutions, such as Tableau and Looker.



TruEra Diagnostics helps companies to quickly and easily evaluate its models for bias, to ensure fairness and compliance with any industry standards or regulations.