

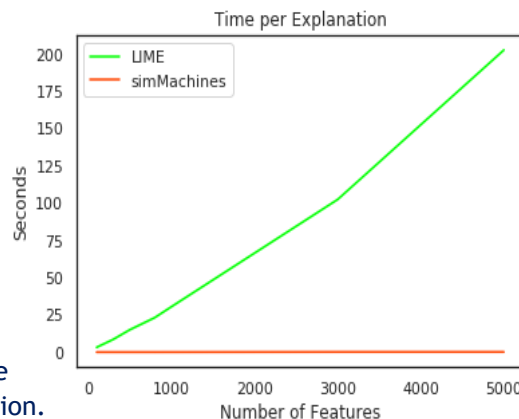


MACHINE LEARNING PREDICTIONS WITH "THE WHY"

## SIMMACHINES EXPLAINABLE AI ANALYTIC WORKBENCH

When automated insights at speed and scale are important to your analytic application, simMachines XAI Analytic Workbench is the machine learning platform of choice. simMachines technology is built on similarity (KNN) that is a highly accurate and inherently transparent ML method. simMachines state of the art technology can match or outperform any other ML while providing precision and transparency at the speed and scale required for real time, large scale high dimensional data apps.

simMachines stands alone with its inherently explainable technology vs. other methods including neural nets, decision trees or deep learning that use bolt on approaches to provide transparency. This means you get high scale, real-time applications with "the Why" behind every prediction.



## PRECISION

Precision comes first in ML applications and simMachines provides the same or greater level of performance as any other ML method through learned metric distance functions. Underlying all functionality is state of the art precision you can count on.

## AUTOMATION

An easy to use analytic workbench supports data scientists and non-data scientists alike in managing modeling and segmentation projects quickly and easily. Training is ½ day.

## TRANSPARENCY

simMachines technology reveals weighted factors with supporting nearest neighbor objects for every prediction giving users the ability to drill down at the local level into every feature driving a prediction with comparative analysis to other similar objects.

## SPEED & SCALE

simMachines leverage high speed indexing capabilities to support lightning fast response time for high speed batch or real time applications. And simMachines reduces project timelines by up to 80%.

## PRIMARY FOCUS AREAS

- Marketing
- Fraud
- Identity
- Financial Services
- Retail & E-Commerce
- Telecom & Media

## COMMON USE CASES

- Customer Predictions
- Customer Segmentation
- Dynamic Predictive Segmentation
- Insights & Analysis
- Personalization
- One to One Media Measurement
- Fraud, Bad Debt and Charge Back Prevention
- Identity Resolution / Matching
- Adaptive Authentication
- Anomaly Detection
- Pattern & Trend Detection

## BUSINESS IMPACTS

- **Efficiency:** Reduce Hours and Cost by 80%
- **Insight:** Machine driven cluster analysis increases insight resolution and speed / frequency of update by 20x
- **Actionable:** Improve marketing relevancy, speed and frequency to drive increased conversion

## FLEXIBLE DEPLOYMENT

- Easy to use, Training ½ day
- GUI or API
- Data science support

## DELIVERY OPTIONS

- Linux virtual machines
- Private Clouds AWS, AZURE, RACKSPACE, Google
- Hosted Managed Service
- Min Config: 8 Core, 16GB Mem, 500 GB SSD



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## XAI ANALYTIC WORKBENCH VALUED FEATURES

A robust application is available to end users for quickly building state of the art models. In fact, the application is so easy to use, training is typically ½ day. For end user data scientists or analysts, simMachines offers an application that supports broad use cases where explainability, segmentation at scale, speed to insight, auditability and compliance are critical consideration factors as part of a use case. API's also available.

### DATA INGESTION MADE EASY

No need to fill in missing values, normalize data or one-off encode categoricals. Data sets are stored in folders and can span files, so all files in a folder can be treated as a single data set and input columns have statistical analysis by type automatically generated.

### COMPREHENSIVE MONITORING

Model analytics reporting, including global feature importance and unseen data reports are provided as well as real time prediction monitoring and notification of statistical issues. Individual comparison of nearest neighbor objects to prediction object provided by feature difference.

### UNPARALLELED SEGMENTATION

Agglomerative and K-Means clustering in addition to dynamic predictive clustering is supported. Control setting for maximum number of clusters, minimum number of objects to create a cluster and number of factors revealed by cluster are provided. Unsupervised and supervised clustering with tunable visualizations and sub-cluster comparison capability available.

### HANDLES UNSTRUCTURED DATA

Automatic stemming and conversion to bag of words for language string input enables users to handle use cases where ingesting product names, social media comments, web pages, resumes, documents, etc. is part of the data input.

### AUTOMATES MODEL DEBUGGING

Provides model debugging by revealing the data changes associated with model performance. This enables end users to see and adjust quickly for data input changes that cause model performance issues and address them in a timely manner vs. having lengthy research time.

### AUDITABLE PREDICTIONS

Every prediction comes with feature weights and nearest neighbor objects with keys tied back to the training object database. This means every prediction stores a rich set of information as to why the machine made the determination it did for easy retrieval and access. Prediction feature weights can be analyzed and reported at global or local levels and stored.

## EFFICIENCY

- ✓ Easy to Use GUI with advanced features
- ✓ Search, classification, clustering & recommendation modeling engines
- ✓ Data upload & spec analyzer for assessing data quality
- ✓ Automated grid search, hyperparameter tuning & optimization
- ✓ Model updates, versioning and monitoring
- ✓ Understandable, auditable, compliant, explainable
- ✓ Restful APIs for integration, cloud & on prem deployment, data scientist support

## INSIGHTS

- ✓ Feature weighting by prediction reveals local level "Why" factors
- ✓ 3rd party data sets & matching services available
- ✓ Dynamic predictive clustering enables high resolution analysis, trending, segment comparisons
- ✓ Export to preferred BI tools for augmented analysis and executive reporting

## ACTIONABLE

- ✓ Weighted prediction features inform next action / reviews at transaction and segment levels
- ✓ Integrates easily into workflow processes on prem at client
- ✓ Application enables data exports / targeting model runs