Tangent Works

Machine Learning for Time Series Data

Predictive and Prescriptive Analytics in
Forecasting and Anomaly Detection

Meet **TIM**

The Tangent Information Modeller

TIM is Tangent Works' automatic model building engine. It automates the forecasting and anomaly detection processes by analysing time series data and generating accurate models based on the detected patterns.

Key Features

Automated feature engineering
TIM automates the feature engineering process by analysing the historical input data and determining which features are relevant in determining the output.

Accuracy that rivals finely tuned hand-crafted models
Seeing is believing. Many of our customers had existing models that were built and tuned manually with months of effort. Imagine their surprise when TIM created a model in minutes, or even seconds, with equivalent or even better accuracy.

Scalable in every way
TIM's underlying technology is extremely computationally efficient and therefore can process huge datasets in a matter of minutes or seconds. Moreover, TIM helps organisations scale to handle the increasing demand for predictive models by automating the most tedious aspects of model building and fully leveraging existing resources.

Explainable models
A great challenge in predictive modelling is explaining the models to the people who depend on it. TIM creates its models in a human-readable format. This helps any user to quickly and deeply understand the models TIM creates and how the resulting forecast or anomaly detection came to be.

Easily integrated with your existing applications
TIM is designed for smooth integration with existing databases, BI tools and other enterprise applications. All TIM's functionalities are easily accessible through its REST API. This also results in the utmost deployment flexibility.

Find out more

Take a look at the other side

Consult our documentation:
https://docs.tangent.works

Consult our website:
https://www.tangent.works

Try TIM:
https://www.tangent.works/trial
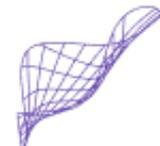
Solution Architecture

The TIM solution consists of three major parts:

The TIM Engine
All necessary Machine Learning functionalities, including time series model generation, forecasting and anomaly detection.

TIM Studio
Designed to serve as a Machine Learning development and operations (MLOps) platform for time series modelling. Covers data preparation, business process orchestrations including continuous data integration and much more.

TIM Clients
TIM can be accessed through a variety of tools and platforms. TIM Clients are available for Alteryx, Qlik Sense, Tableau, Denodo, Cloudera, and Microsoft or Microsoft Azure Products (including Azure Data Lake, Azure Databricks, Azure SQL Data Warehouse, Microsoft SQL Server, Microsoft Excel and Microsoft Power BI. This prevents users from having to switch tools each time a forecast or anomaly detection is required and seamlessly integrates TIM's capabilities into users' familiar digital environments.
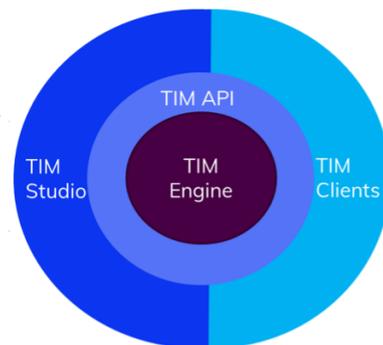
TIM Studio

TIM's capabilities, through an intuitive interface, offering:
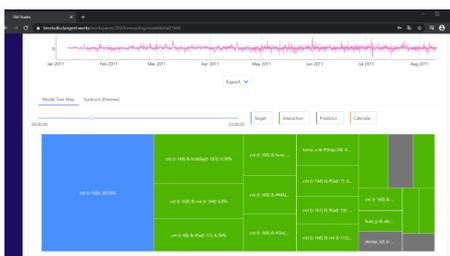
Explainable AI in both   **Forecasting** and   **Anomaly Detection**.
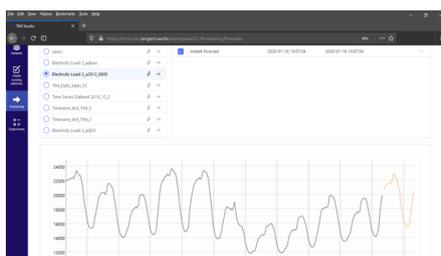
InstantML and RTInstantML

TIM surpasses the traditional approach to Machine Learning, namely handcrafted modelling, as well as the AutoML strategies that have recently drawn attention. Both approaches remain time-consuming and expertise-intensive. With the unique technology called InstantML, Tangent Works counters these challenges by generating one single high-quality model with a single pass through the data. TIM's capabilities are enhanced even further with real-time InstantML, a technology that provides organisations with optimally trained models for the available data at any time, allowing for immediate forecasting or anomaly detection.
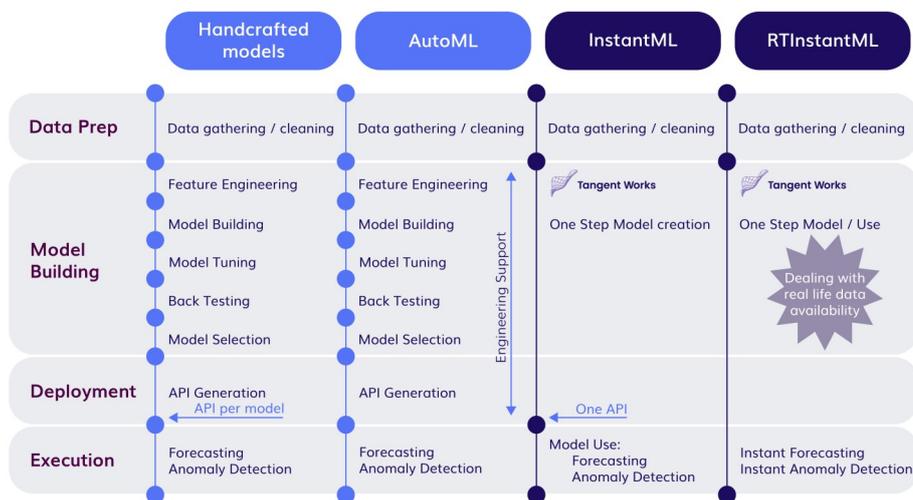
	Handcrafted models	AutoML	InstantML	RTInstantML
Data Prep	Data gathering / cleaning	Data gathering / cleaning	Data gathering / cleaning	Data gathering / cleaning
Model Building	Feature Engineering	Feature Engineering	Tangent Works	Tangent Works
	Model Building	Model Building	One Step Model creation	One Step Model / Use
	Model Tuning	Model Tuning		
	Back Testing	Back Testing		Dealing with real life data availability
	Model Selection	Model Selection		
Deployment	API Generation / API per model	API Generation	One API	
Execution	Forecasting Anomaly Detection	Forecasting Anomaly Detection	Model Use: Forecasting Anomaly Detection	Instant Forecasting Instant Anomaly Detection

(Engineering Support)

Tangent Works