

# Turning your Data/AI algorithms into **Full Web Applications** in no time with **Taipy**

**April, 2024**

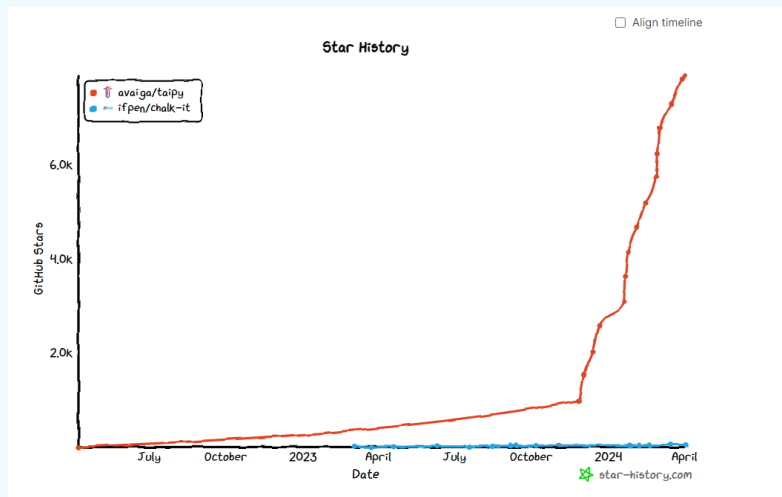
Presented by **Avaiga**

# Our Mission

**“To Become the standard platform that enables data/AI projects to swiftly achieve success from pilot phase to production.”**

# Taipy is fast becoming a major player

Explosion of the Number of github stars since Nov 2023



- Taipy is regularly making it to the github trending list (rare for European company)
- In 4 months, Taipy daily downloads increased from 15/day to over 200/day.

# The Problem

Low success rate of Python Data/AI projects while  
companies spend vast amounts of money on them.

(Gartner 2019)

# The Causes

- Lack of a common software platform,
- Gap between IT teams and End-Users ...
- Difficulty to recruit Talents,
- Current siloed approach is not working,

(IDC 2020)



# From pilot to project, **Over 85% failure!**



Almost 90% of data applications take **too long**, are **too costly** to develop and deploy.

*Source: IDC 2020 FutureScape: Worldwide Data and Analytics 2021 Predictions*

# The Solution



# What is Taipy?

# Taipy covers **both** **Frontend + Backend**



100% Python  
webapp  
development



Open-Source &  
Enterprise  
license

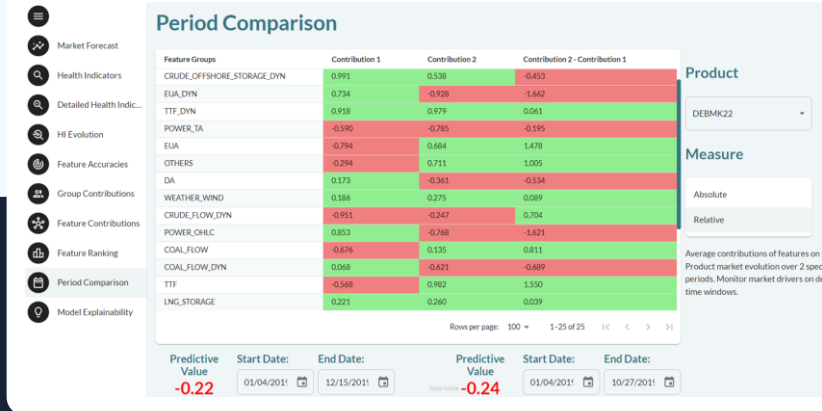
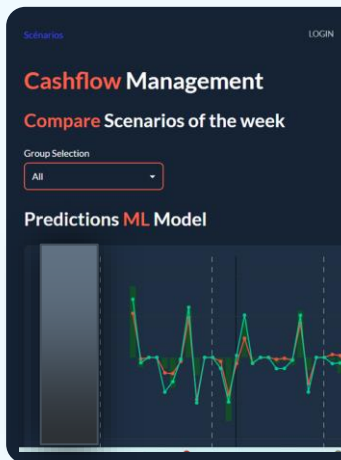


Easy to learn



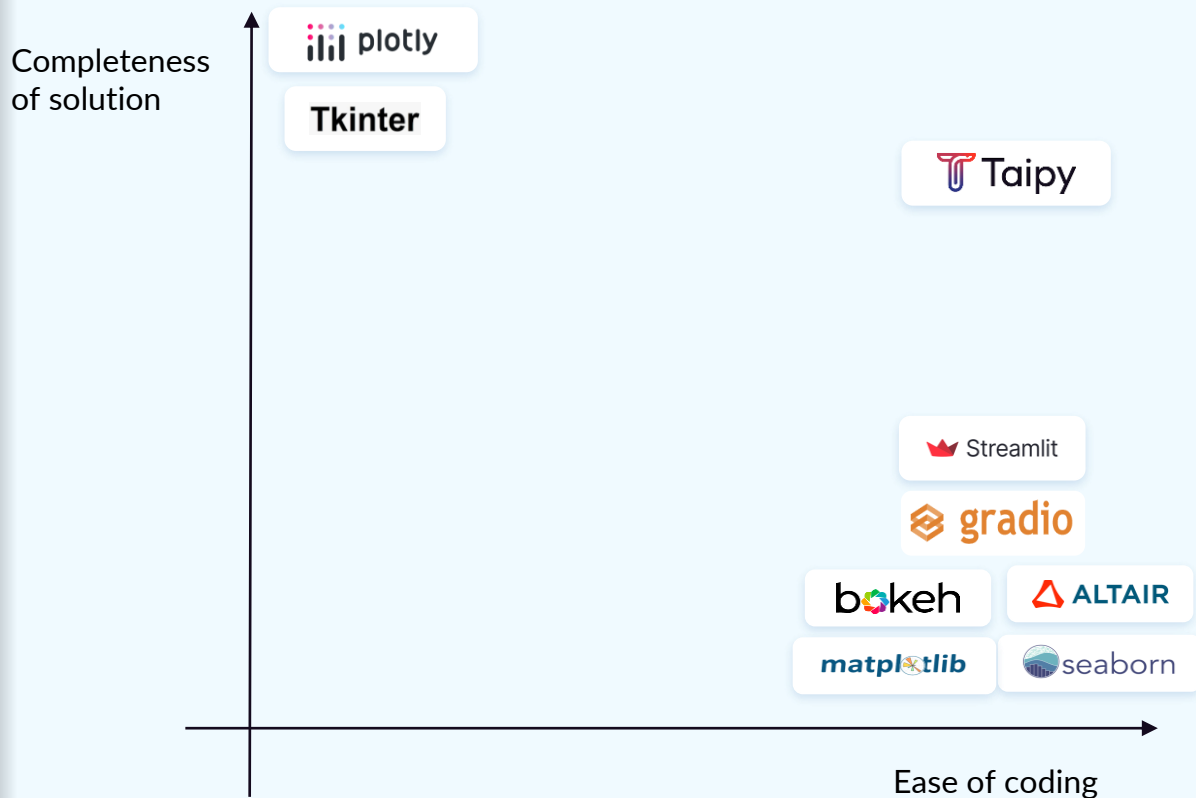
## Covers:

- DashBoards, Data Apps,
- AI (ML, DL, RL),
- Simulation,
- Operations Research,
- Ad-hoc Algos,
- and more.



# Taipy frontend

## Python Graphical Packages



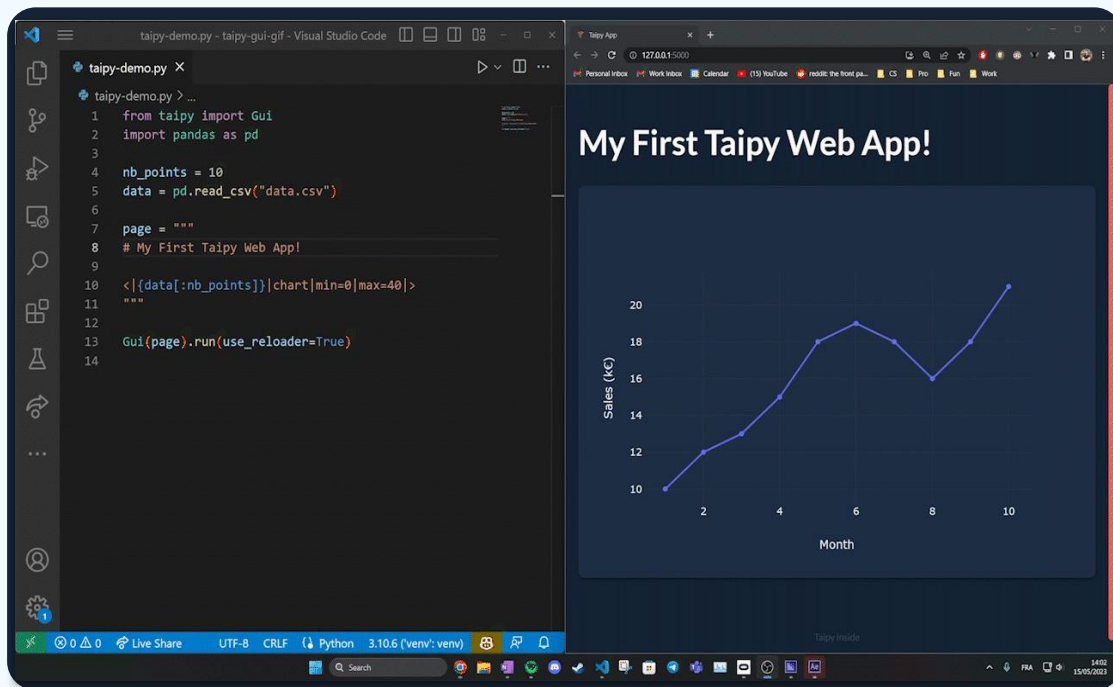
# Taipy frontend

## Python Graphical Packages

	Taipy	Other GUI Packages
Efficient Event loop	✓	✗
Sync / Async Calls	✓	✗
Easy Customization	✓	✗
Notebook Compat.	✓	✗
Markdown	✓	✗
Large Data Support	✓	✗
Multi-Users	✓	✗
Performance	✓	✗

# Taipy frontend

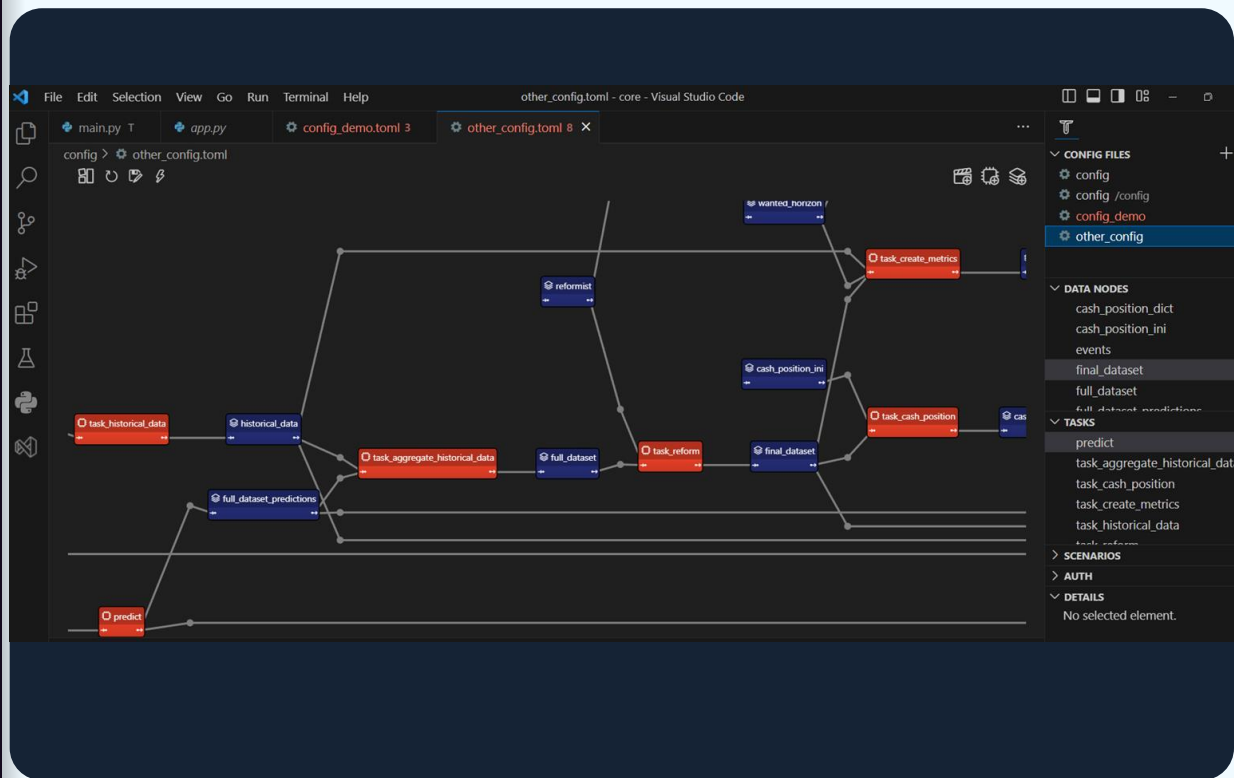
## Python GUI Builder





# Taipy backend

# Powerful Pipelines with Scenario Management



# Taipy backend

## Execution Pipelines with Scenario Management

	Taipy	Other Pipeline Management Packages
Pipeline Execution	✓	do_ ✓
Scenario Mgt	✓	✗
Caching	✓	✗
Data Scoping	✓	✗
Versioning	✓	✗
Cycles	✓	✗
Time to master	Short	Long

# Frontend and backend integration



Pipeline Execution



Monitoring



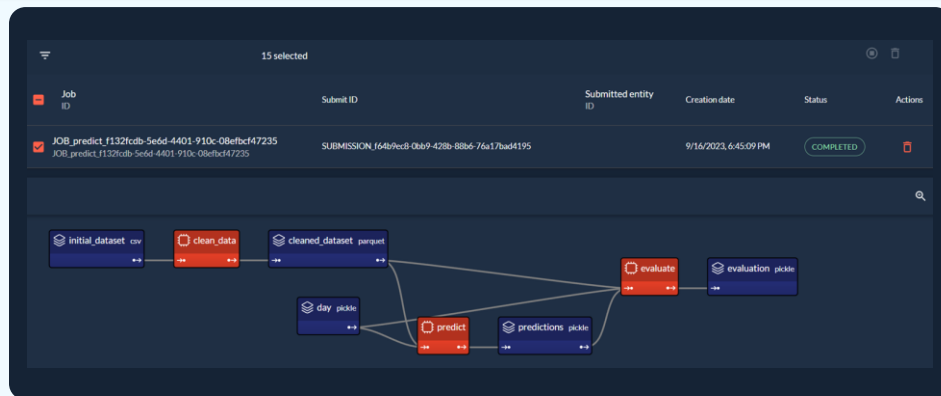
Graphical Explorers for your Data Nodes



Graphical Explorers for your executions (Scenarios)



Registering and Visualising your past Executions (ie Scenarios)



# The Results

# Successful projects at reduced costs

## 4 x

**Reduce development/  
deployment time.**

### Benefits

- Much faster industrialization of projects.
- Save development & deployment time
- Reduce maintenance costs.
- Facilitate collaboration.
- Better performance
- Much higher ROIs

## 10 x

**Savings of resources and  
costs**

### Benefits

- 90% of development work performed by Python developers.
- Little to zero need for resources from other departments.
- Much lighter in terms of project management.

# Reduce Overall Cost by a factor 10 !

Project Example: Intermarché's Cash Flow Management	Budget	Number of IT personnel	Project Duration
Initial Option	600K	4	8 Months
Intermarché's IT Div using Taipy	60K	1.5	2 Months





*“ Taipy has become a core product for our AI strategy. Taipy allows to develop, deploy and maintain our AI applications with ease. It is an integral part of our corporate IT platform.”*

**Arnaud de Ligniville, CFO  
Intermarché**



*Taipy brings all the functionalities needed for an AI driven supply chain: Scenario Management, great UX, Predictive and Prescriptive AI, etc. And all at a fraction of the costs of alternative solutions.*

**Dang Huynh Uc My,  
Chairman TTC Sugar**



*Taipy enables us to implement the best practices to succeed with the industrialization of AI apps. It saves us several years of hard learning, many resources and has decreased the deployment of our apps drastically.*

**Jesselynn M., Responsible for  
McDonald's HR applications**



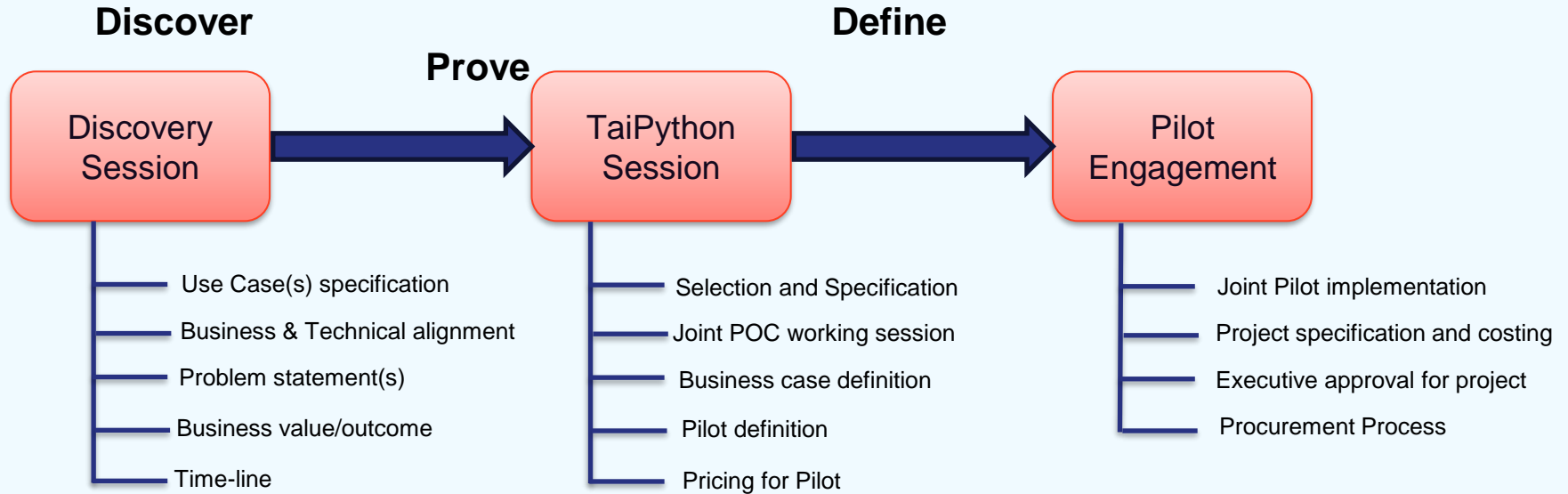
# Taipy Enterprise

## Overview

# Taipy Enterprise

Product	Taipy Community	Taipy Enterprise
Taipy Open-Source	●	●
Product Support		●
Authentication		●
Authorization / Roles		●
Performance		●
Scheduler		●
Distributed Computing		●
Taipy Designer		●

# TaiPy Sales Engagement Process



The screenshot displays the Taipy Designer interface, which is used for building and managing data science applications. The interface is divided into several sections:

- Left Sidebar (Widgets):** A vertical panel on the left lists various widget categories for selection:
  - Widgets:** Includes a search bar and a list of categories: Basic inputs & controls, Basic displays, Plots, Geo & Time, and Annotation & Video.
  - Plotly line:** Represented by a line graph icon.
  - Plotly bar:** Represented by a bar chart icon.
  - Plotly pie:** Represented by a pie chart icon.
  - Plotly Python generic:** Represented by a Python logo icon.
  - Matplotlib generic:** Represented by a Matplotlib logo icon.
  - Echarts JavaScript generic:** Represented by an Echarts logo icon.
- Main Canvas:** The central area where the application is built. It features a large dashed box labeled "Prediction" with a red minus sign, indicating a placeholder for a prediction widget. Below this, there are four sliders for input parameters:
  - petal\_length:** Slider set to 3.
  - petal\_width:** Slider set to 0.5.
  - sepal\_length:** Slider set to 2.7.
  - sepal\_width:** Slider set to 5.4.
- Right Panel:** A scatter plot showing the relationship between "sepal width (cm)" on the x-axis and "sepal length (cm)" on the y-axis. The plot contains numerous data points, with a cluster of red points and a cluster of blue points.
- Bottom Bar:** A horizontal bar at the bottom of the interface displaying the text "Taipy Designer - Version 0.5.6" and "Credits".



# Taipy has a 'natural' integration with Data Analytics Platforms



# Examples

- Databricks,
- Dataiku
- AWS SageMaker
- Google Colab
- IBM WatsonX,
- etc.



**Taipy Application connects  
Databricks Data Sources**

**Taipy Application calls  
Databricks Jobs**

**Run Taipy within Databricks  
Notebooks**



**Taipy embedded in  
Dataiku**

**Taipy application calls  
Dataiku pipelines**

# Thank **you**

And contribute to  
our Git repo !



[https://github.com/Avaiga/taip](https://github.com/Avaiga/taipy)  
**y**

# Additional Slides

# Taipy is launching its own LLM, **TalkToTaipy**

# TalkToTaipy



Taipy Application



Generates Taipy code



Load your own excel/csv table(s)



Ask any question



Generates Taipy graphical charts

