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

April, 2024

Presented by Avaiga

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Our Mission

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

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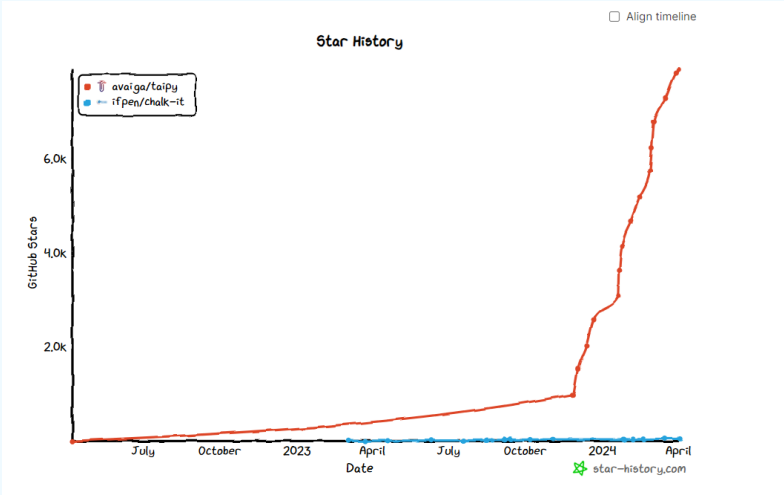
Taipy is fast becoming a major player

- 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.

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The Problem

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

(Gartner 2019)

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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)

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From pilot to project,
Over 85% failure!

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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*

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The Solution

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What is Taipy?

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Taipy covers both Frontend + Backend

- 100% Python webapp development
- Open-Source & Enterprise license
- Easy to learn

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Covers:

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

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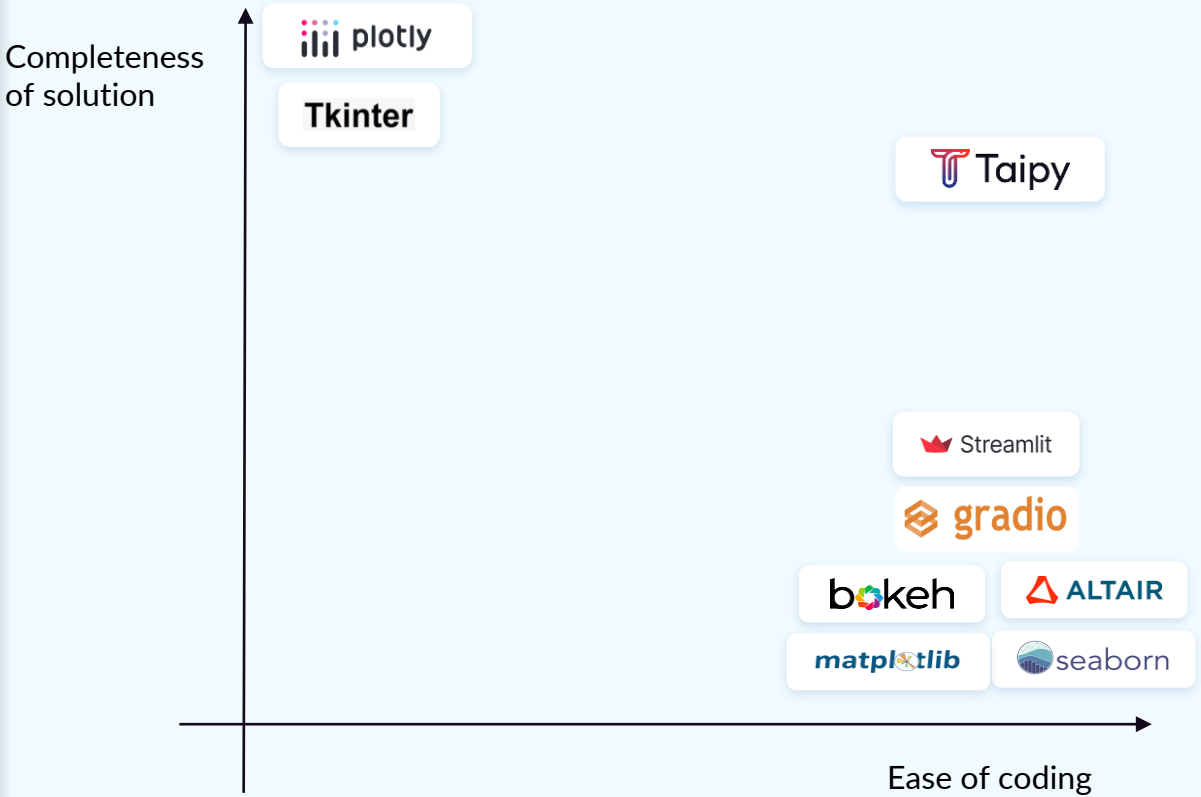
Taipy frontend

Python Graphical Packages



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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	✓	✗

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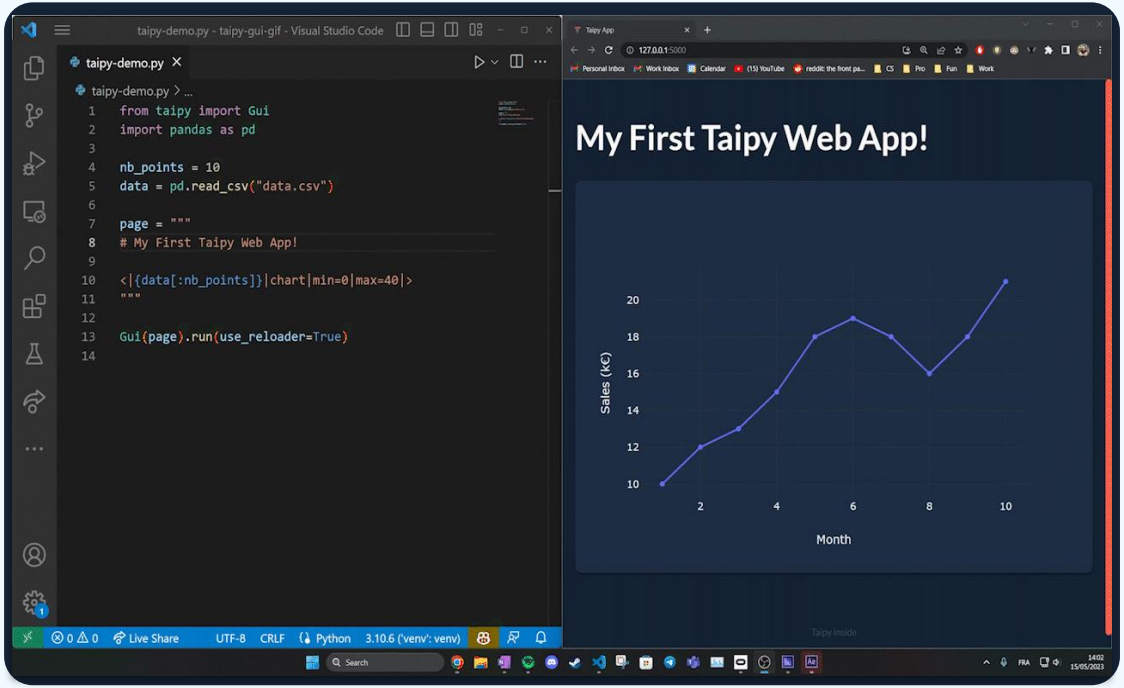
Taipy frontend

Python GUI Builder



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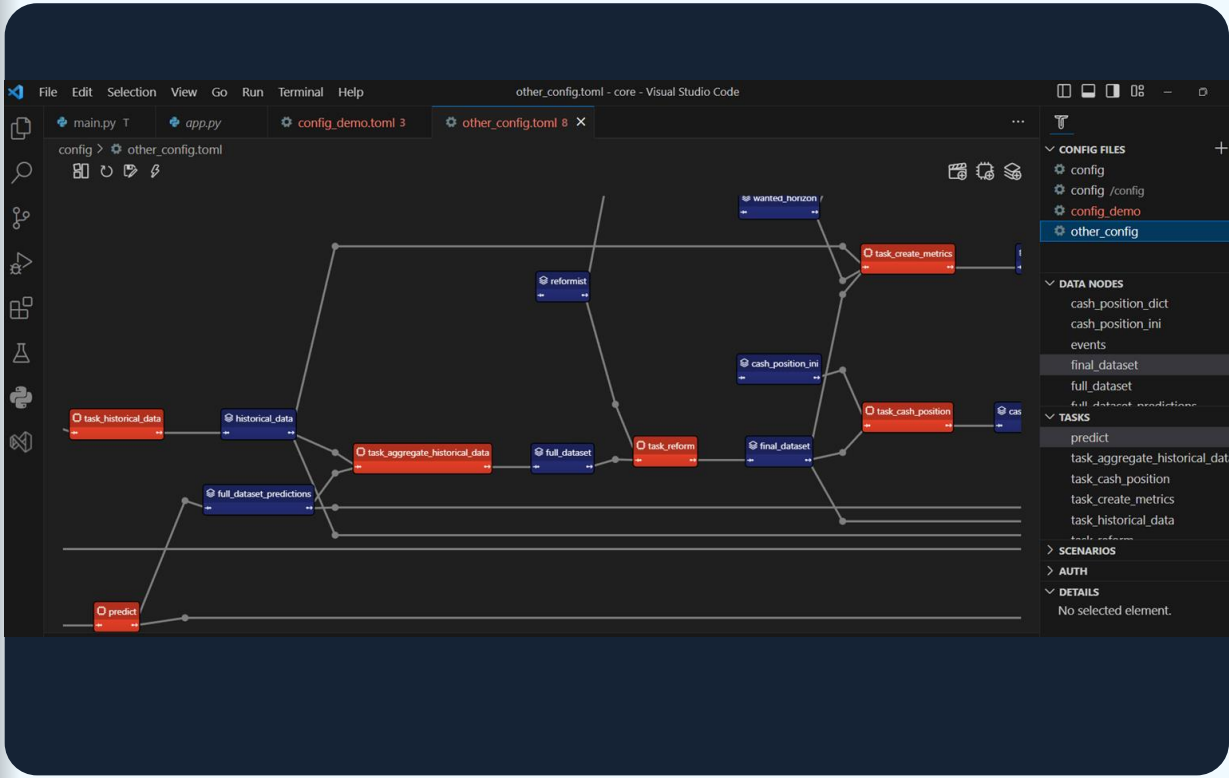
Taipy backend

Powerful Pipelines with Scenario Management



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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

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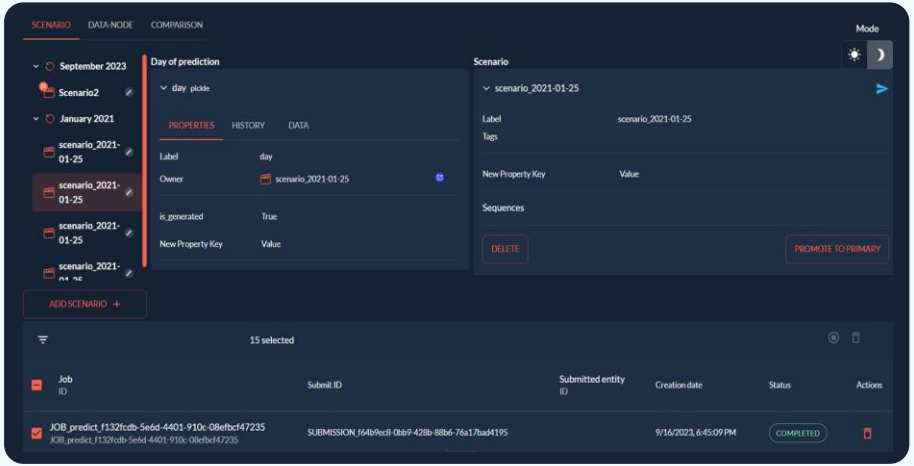
Frontend and backend integration

- Pipeline Execution
- Monitoring
- Graphical Explorers for your Data Nodes
- Graphical Explorers for your executions (Scenarios)
- Registering and Visualising your past Executions (ie Scenarios)



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The Results

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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.

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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

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“ 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

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Taipy Enterprise

Overview

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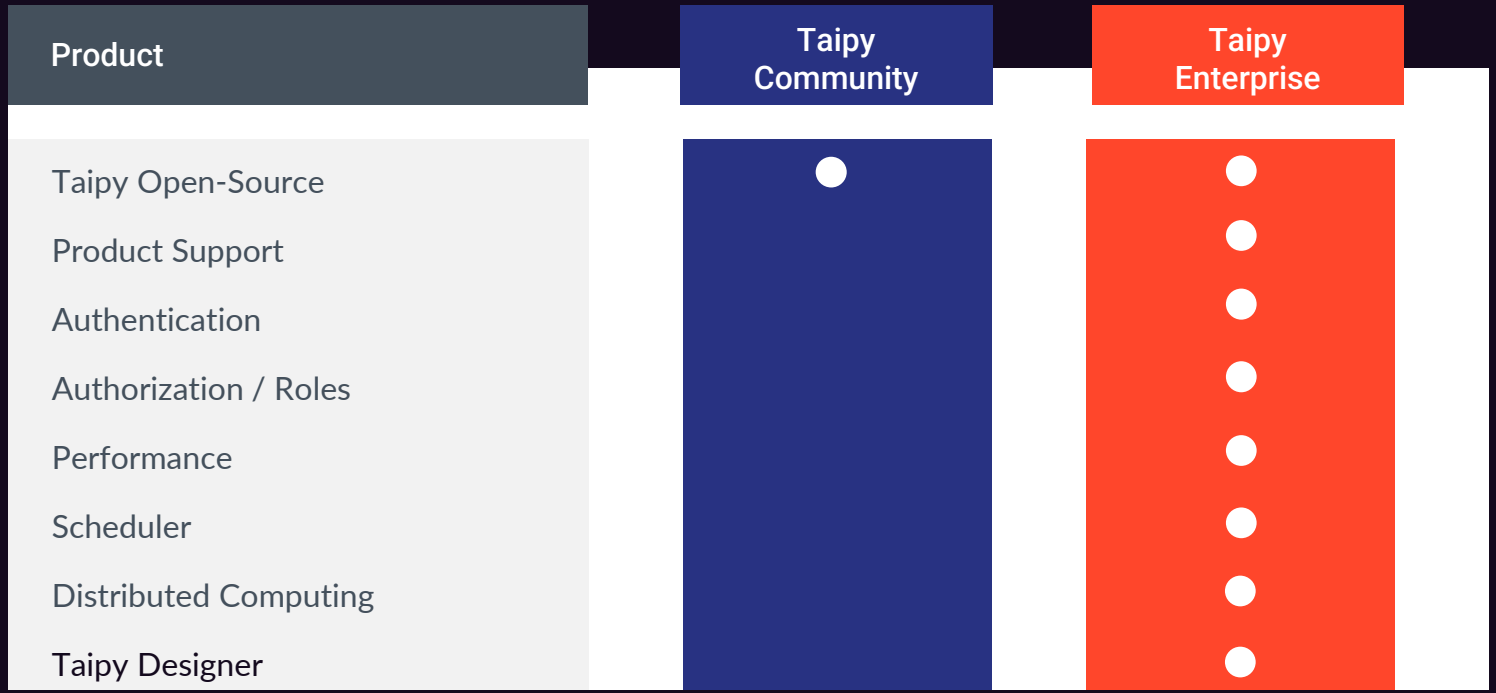
Taipy Enterprise



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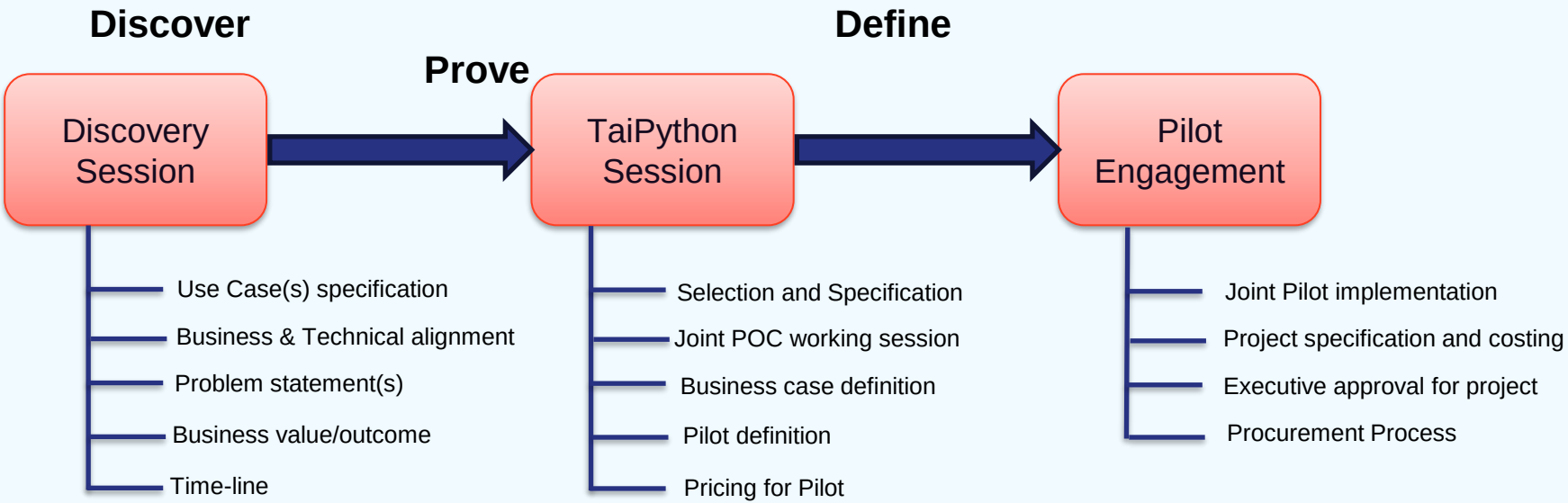
Taipy Sales Engagement Process



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Taipy Designer - Example

Taipy has a ‘natural’ integration with Data Analytics Platforms

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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

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Thank you

And contribute to our Git repo !

https://github.com/Avaiga/taipy

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Additional Slides

Taipy

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Taipy is launching its own LLM, TalkToTaipy

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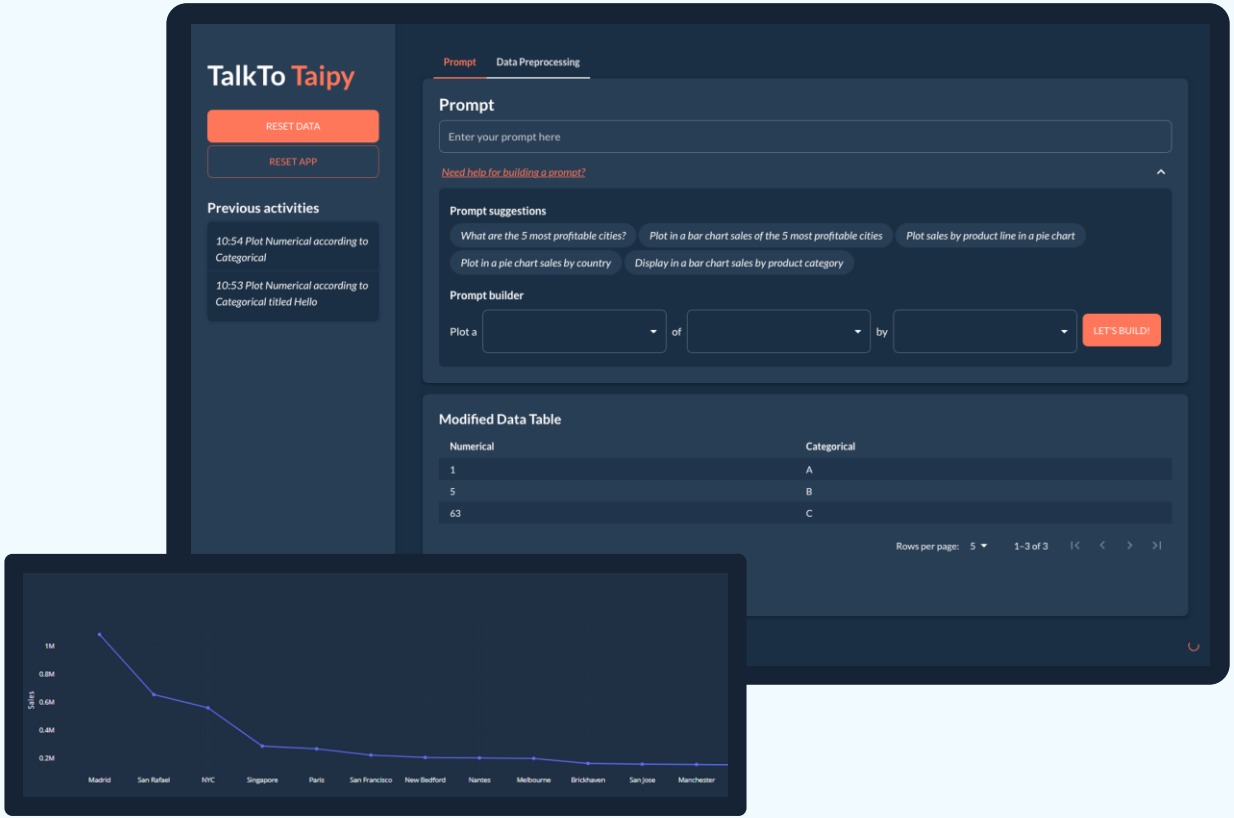
TalkToTaipy

- Taipy Application
- Generates Taipy code
- Load your own excel/csv table(s)
- Ask any question
- Generates Taipy graphical charts



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