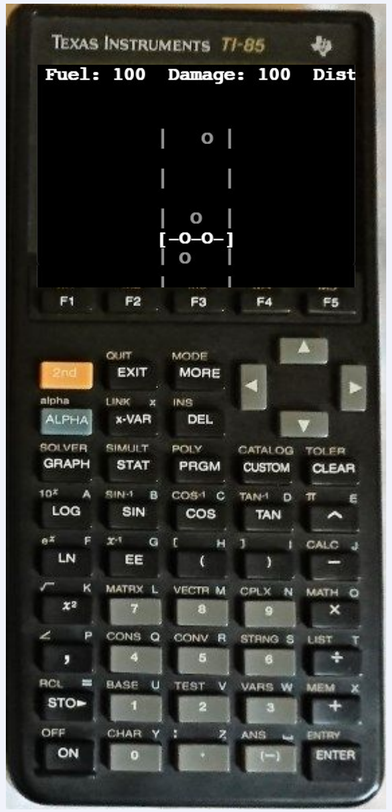
Interactive Analytics: Bringing Tableau Data to Life with Langchain

Joseph Fluckiger
Principal Software Engineer at Tableau

tableau
+
LangChain

About Me - Joseph Fluckiger

- Work: Principal Software Engineer @ Tableau (Salesforce)
- Background: Software, Devops, AI
- FOSS: Python, Machine Learning, Life Sciences, Cloud Devops
- First Gaming Platform: TI-85 Calculator
- Socials:
  - https://www.linkedin.com/in/josephflu
  - https://github.com/josephflu
  - https://josephfluckiger.blogspot.com



Programming Evolution

Traditional Programming: Data + Rules = Answers

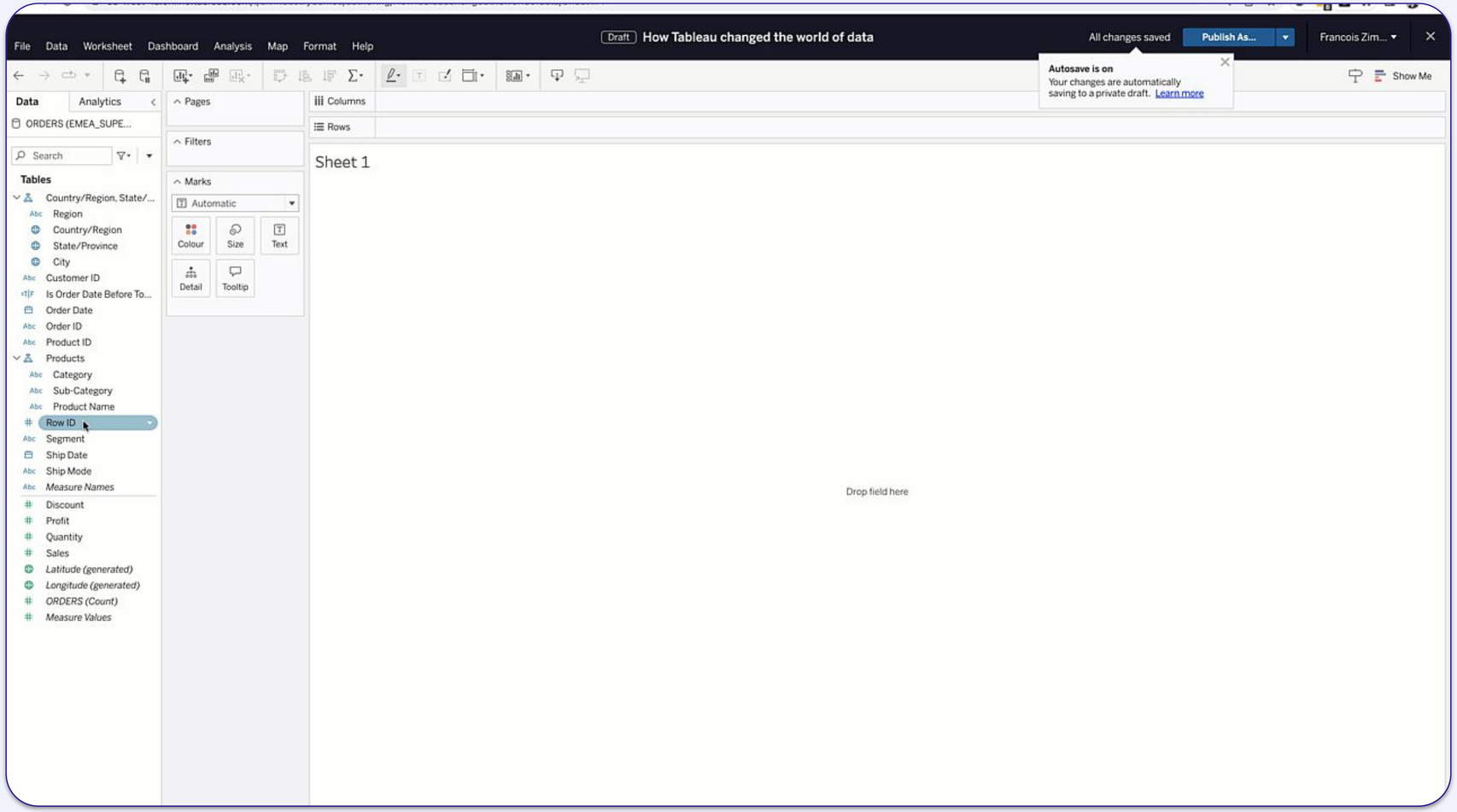
Machine learning: Data + Answers = Rules

Generative AI: Rules (Models) + Scale = Intelligence

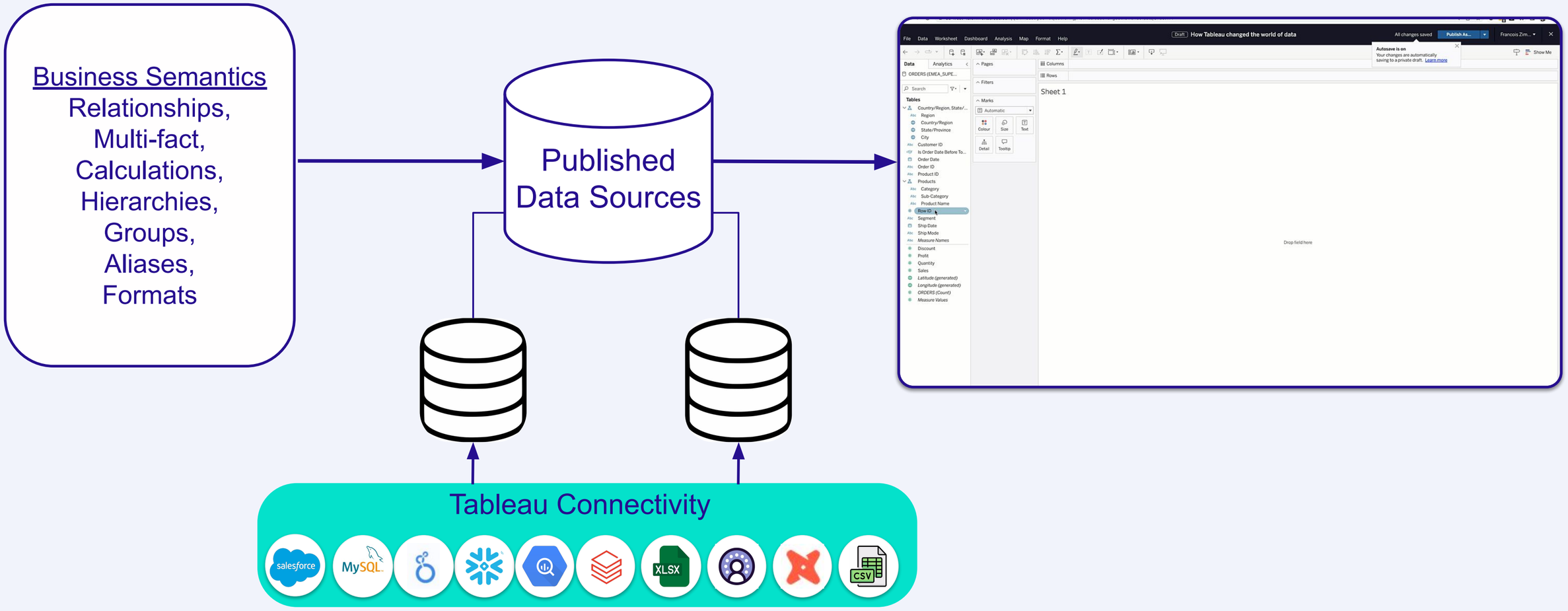
LangChain: Intelligence + Tools = Autonomous Agents 🚀

Tableau is Famous for its Ease of Use

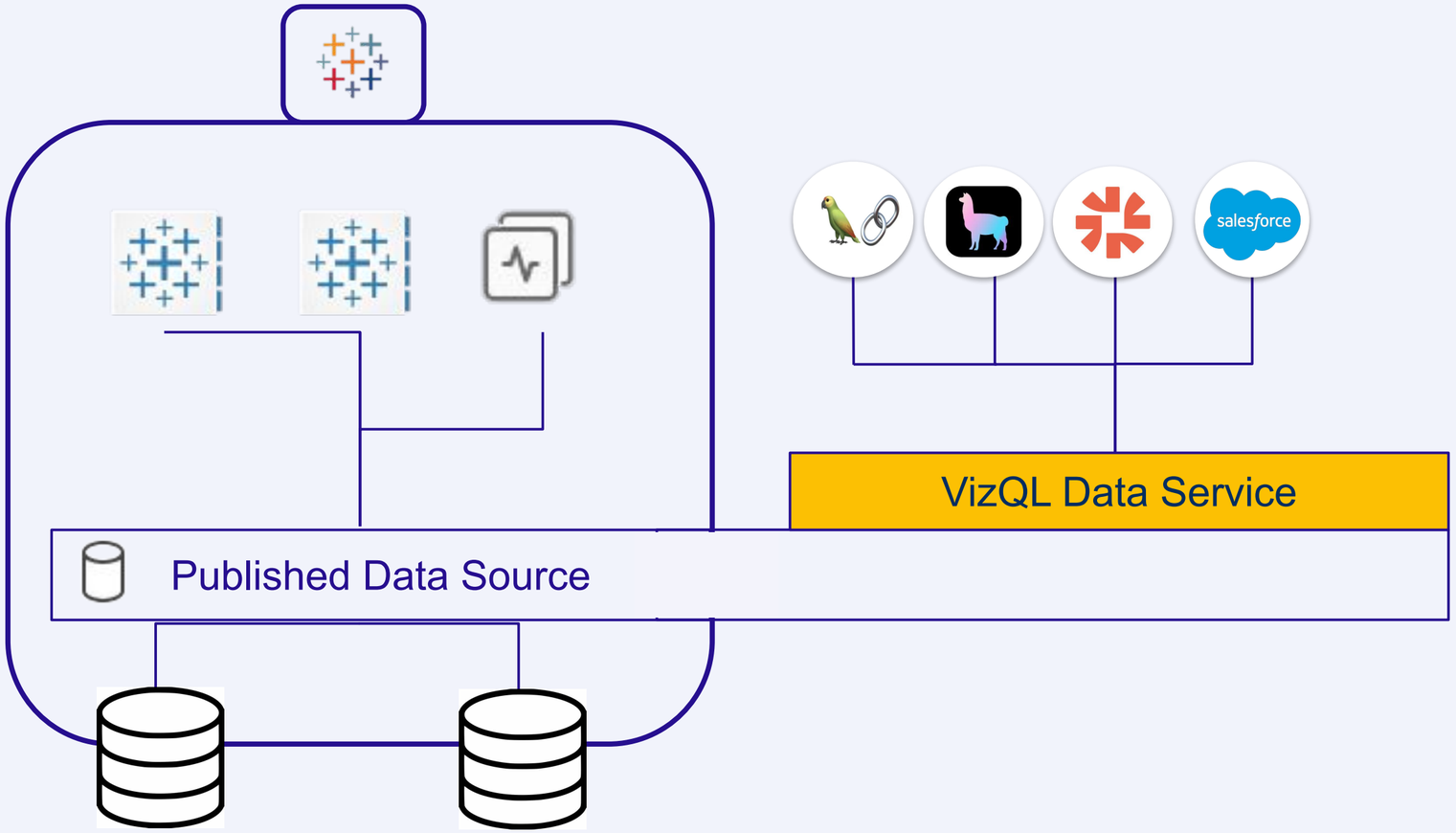
Empowering organizations of all sizes to learn insights from their data

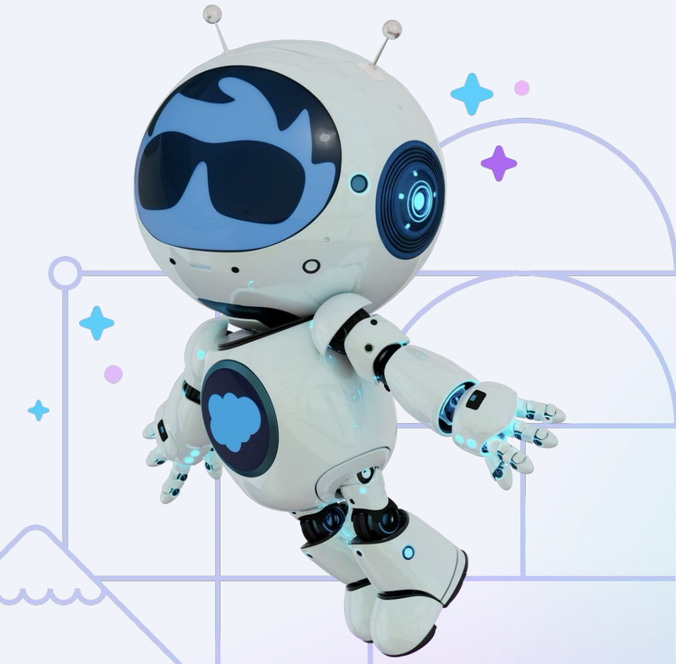


Historically, Semantic Modeling in Tableau was only in Service of Visual Exploration



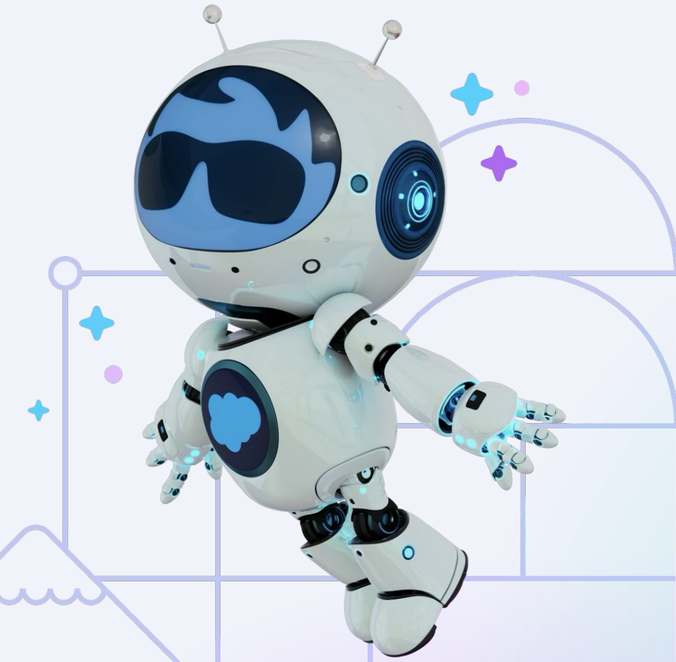
New VizQL Service enables powerful workflows with LangChain





What is VizQL Data Service?

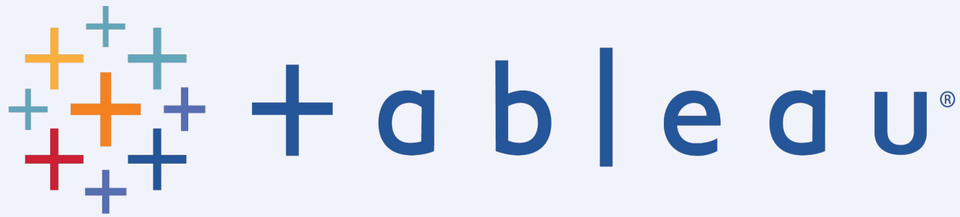
- A new Tableau service that sits alongside our existing REST services
- Accessed via HTTP and uses JSON as the content type
- Uses standard Tableau Authentication
- Two primary endpoints
  - Read Metadata - to get information about a Published Datasource
  - Query Datasource - to send a query to a Published Datasource



Langchain Tableau Package

https://github.com/Tab-SE/tableau_langchain

pip install langchain-tableau



+

How Tableau Langchain Works

Conversation

Ask to take action in natural language

SG Show me a stacked bar chart of the revenue of each auto maker across every country in the data

Working on it

Describe your task or ask a question...

Processing

Query Planner

Request is brought to LLM to identify the intent behind original ask

Data Grounding

Fields, Values, Embeddings

Row Level Security

Execution

Prompts LLM for each skill needed to answer the original ask

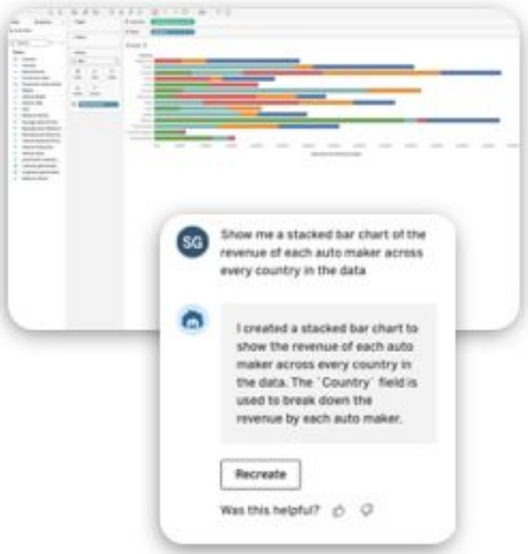
Coherence Check

Reflection

VizQL

Row Level Security

Outcome



GREETINGS
LANGCHAIN
AUSTIN
GREETINGS FROM
AUSTIN
AUSTIN LANGCHAIN
WWW.MUG.ORG

Demo