

The Agentic Auditor: A Multi-Agent Architecture for Scalable Tariff Analysis

Transforming Manual Energy Auditing with Multi-Agent Systems and LLMs



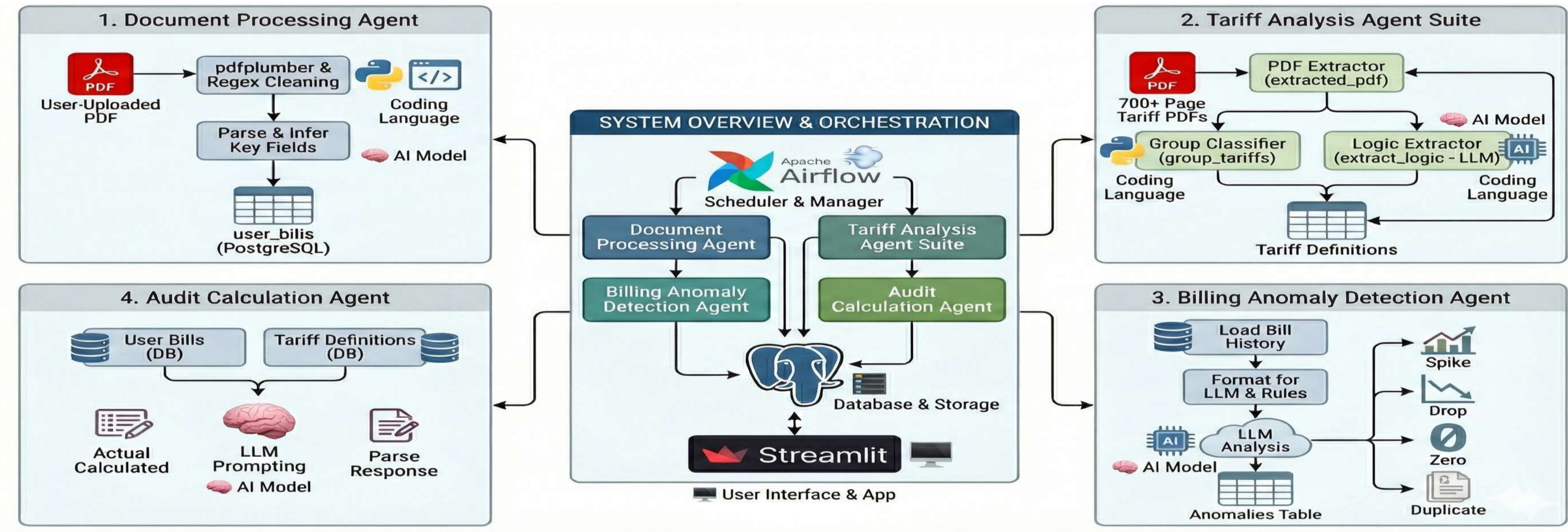
Team : EagleEye
Harshal Patil, Avipsa Bhujabal, Aarushi Jugran

- Acknowledgements:**
- Kevin Gibbs, Vice President of Strategic Partnerships; Troy & Banks, Inc.
 - Justin Raybeck, Energy Auditor/Advisor ; Troy & Banks, Inc.

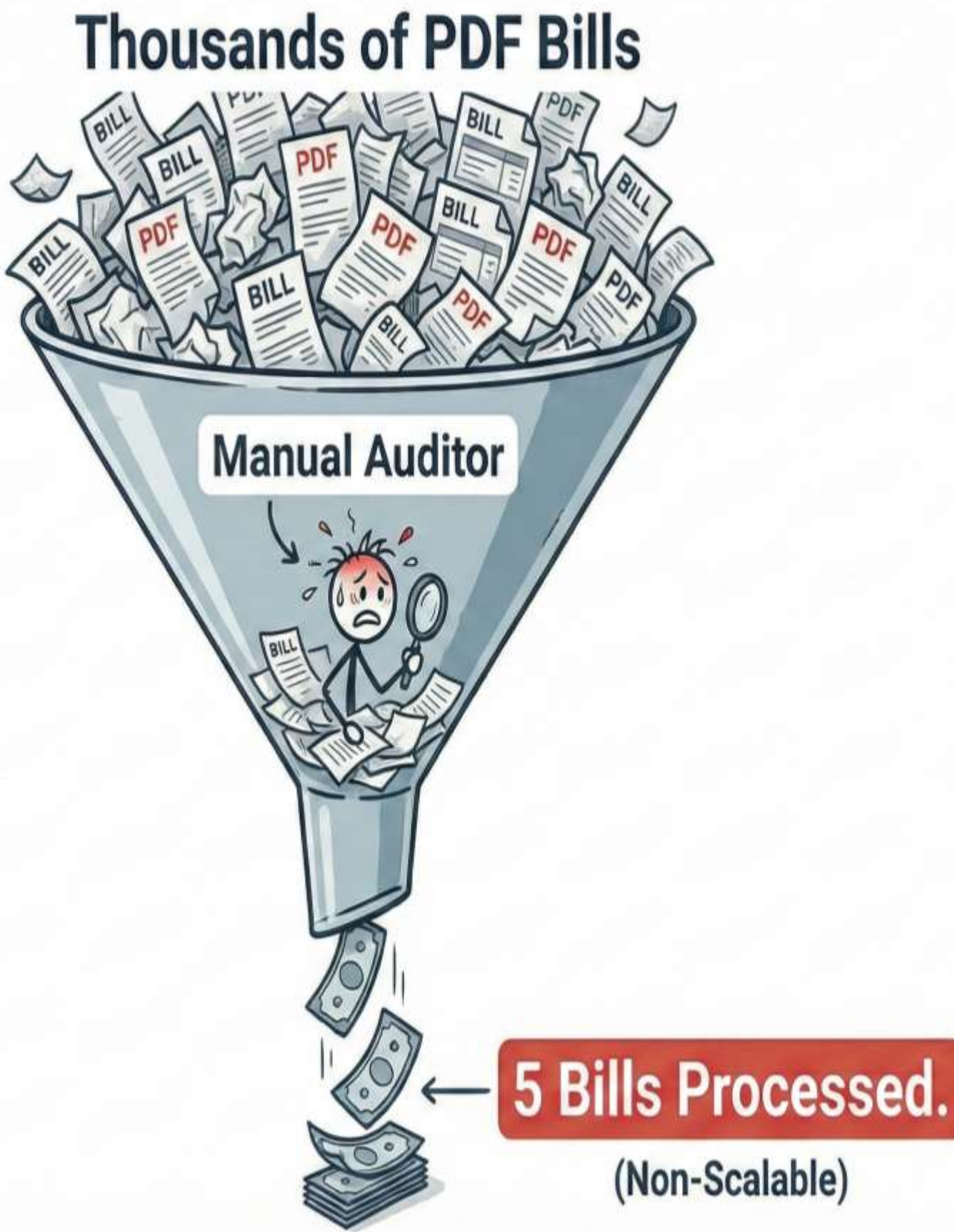
THE CHALLENGE :

- Utility auditing is a highly specialized, labor-intensive process that resists traditional automation due to data complexity.
- ❖ **Unscalable Workflow:** Human experts require **2-4 hours** to process a single complex municipal bill.
 - ❖ **Capacity Cap:** Operational limits restrict output to just **5-10 bills per day** per auditor.
 - ❖ **Data Heterogeneity:**
 - ❖ **Bills:** Thousands of formats across different utility providers and service classes.
 - ❖ **Tariffs:** Pricing rules are buried in **700+ page** PDF legal documents, making simple "regex" extraction impossible.

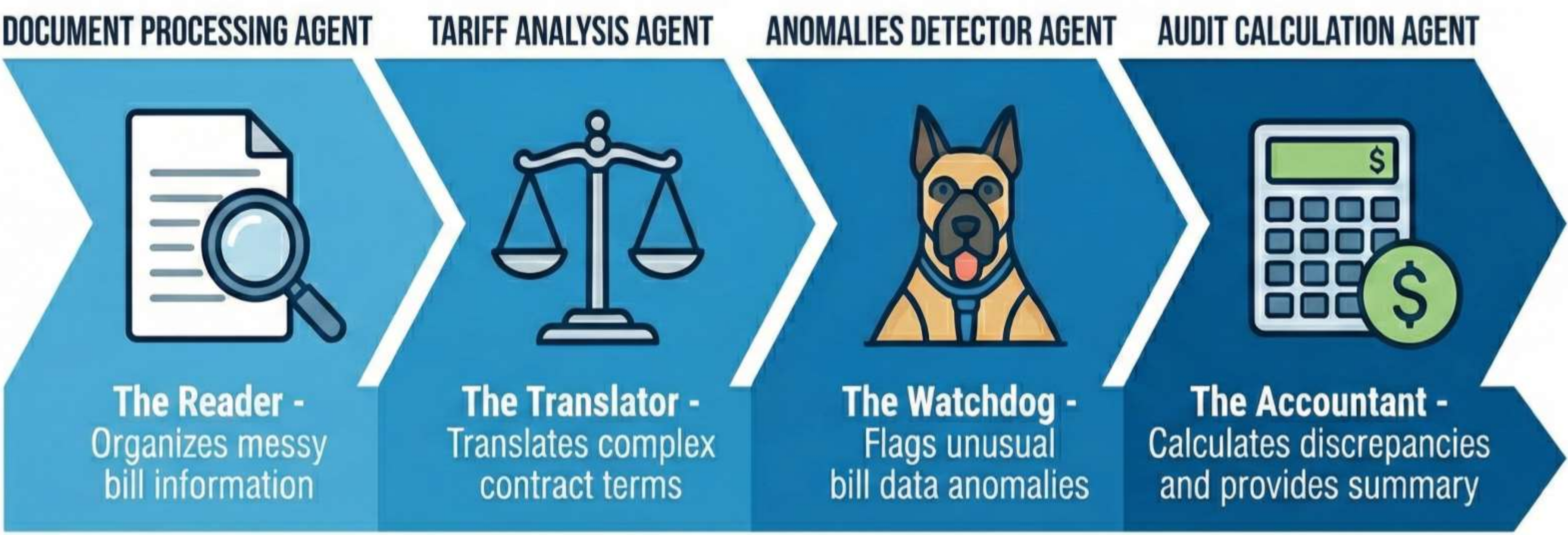
SYSTEM ARCHITECTURE:



The Manual Bottleneck :

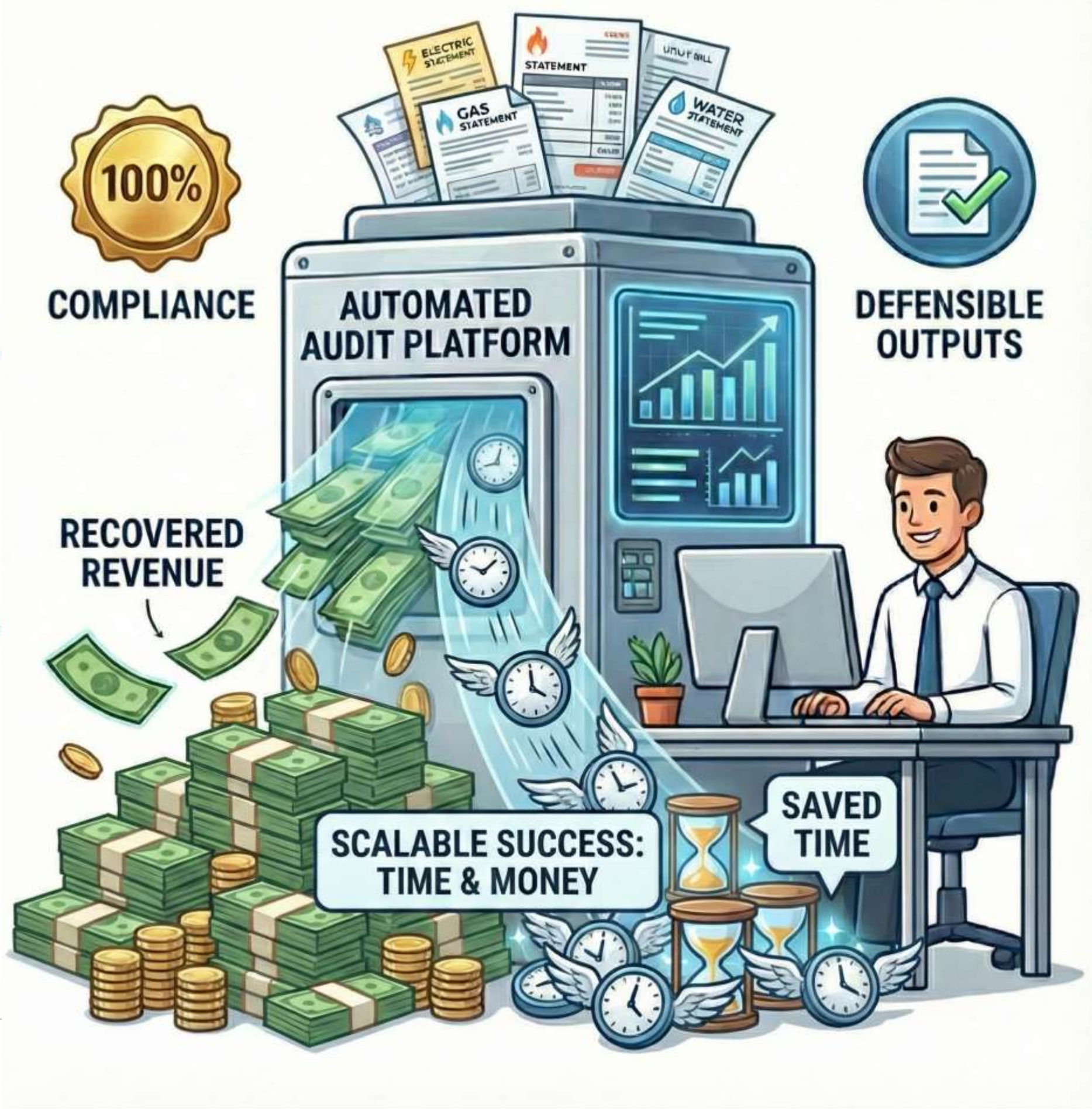


Our Agentic Pipeline:

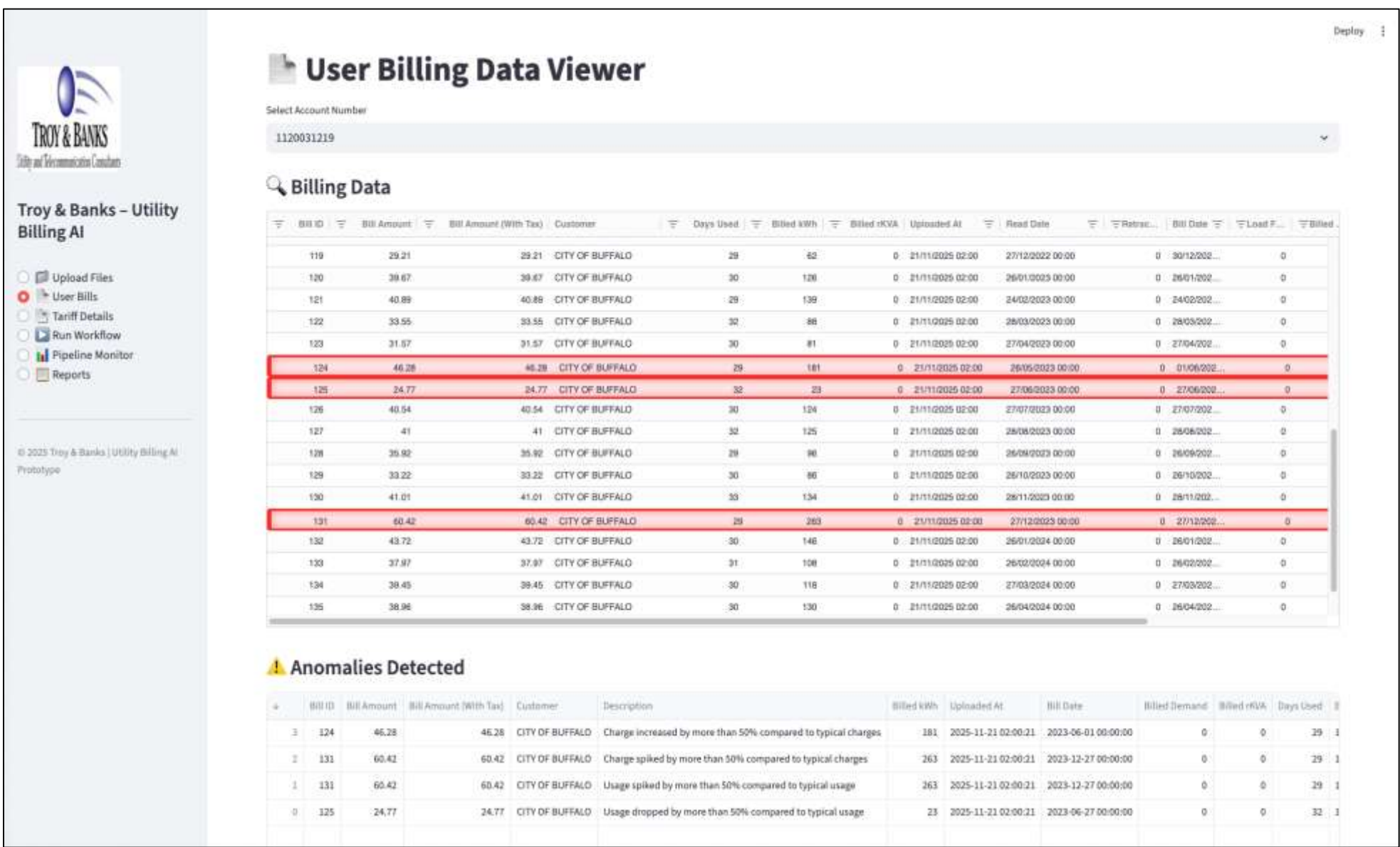


Streamlining Data to Recover Revenue and Ensure Scalable Success

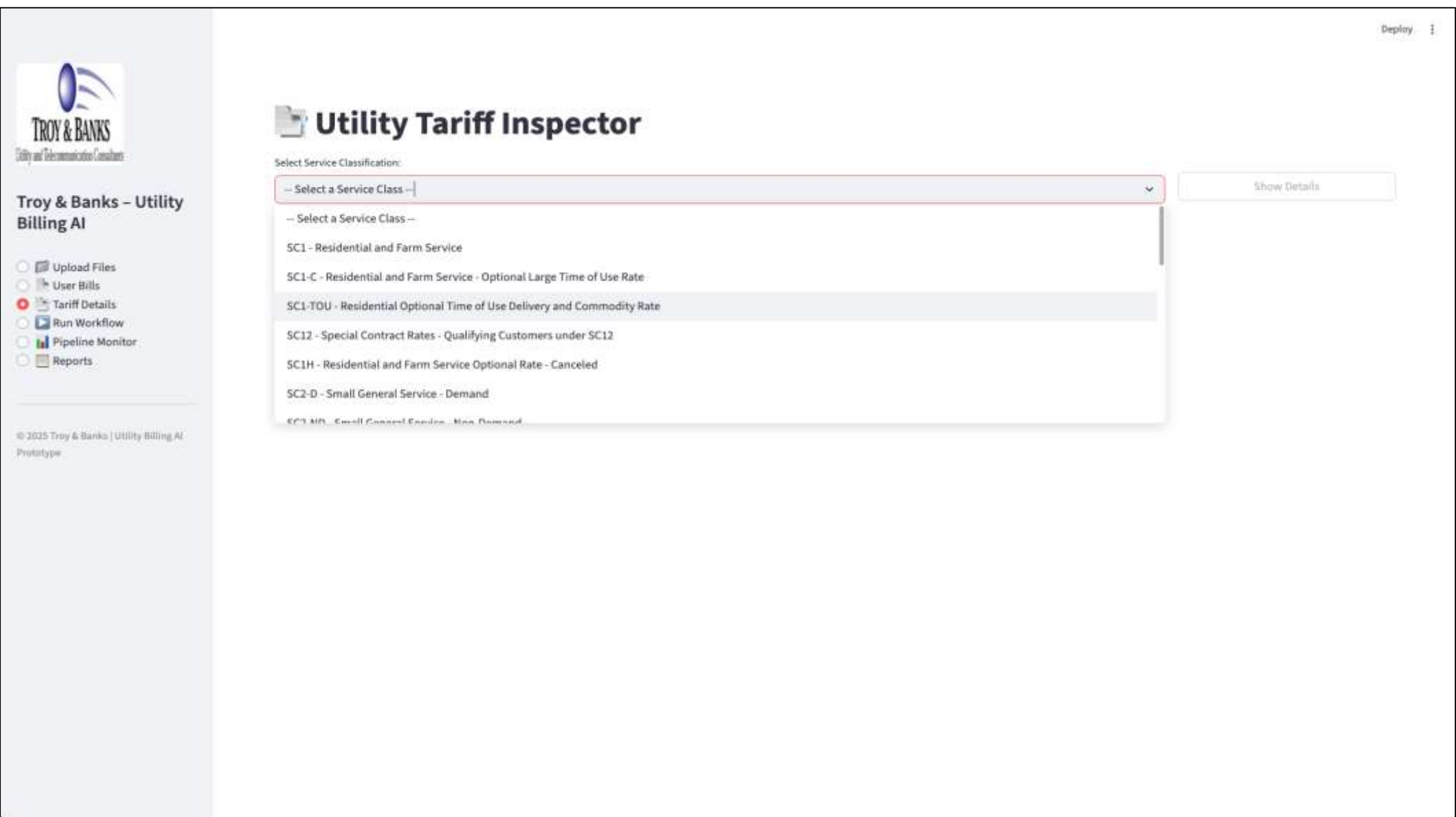
Scalable Business Value :



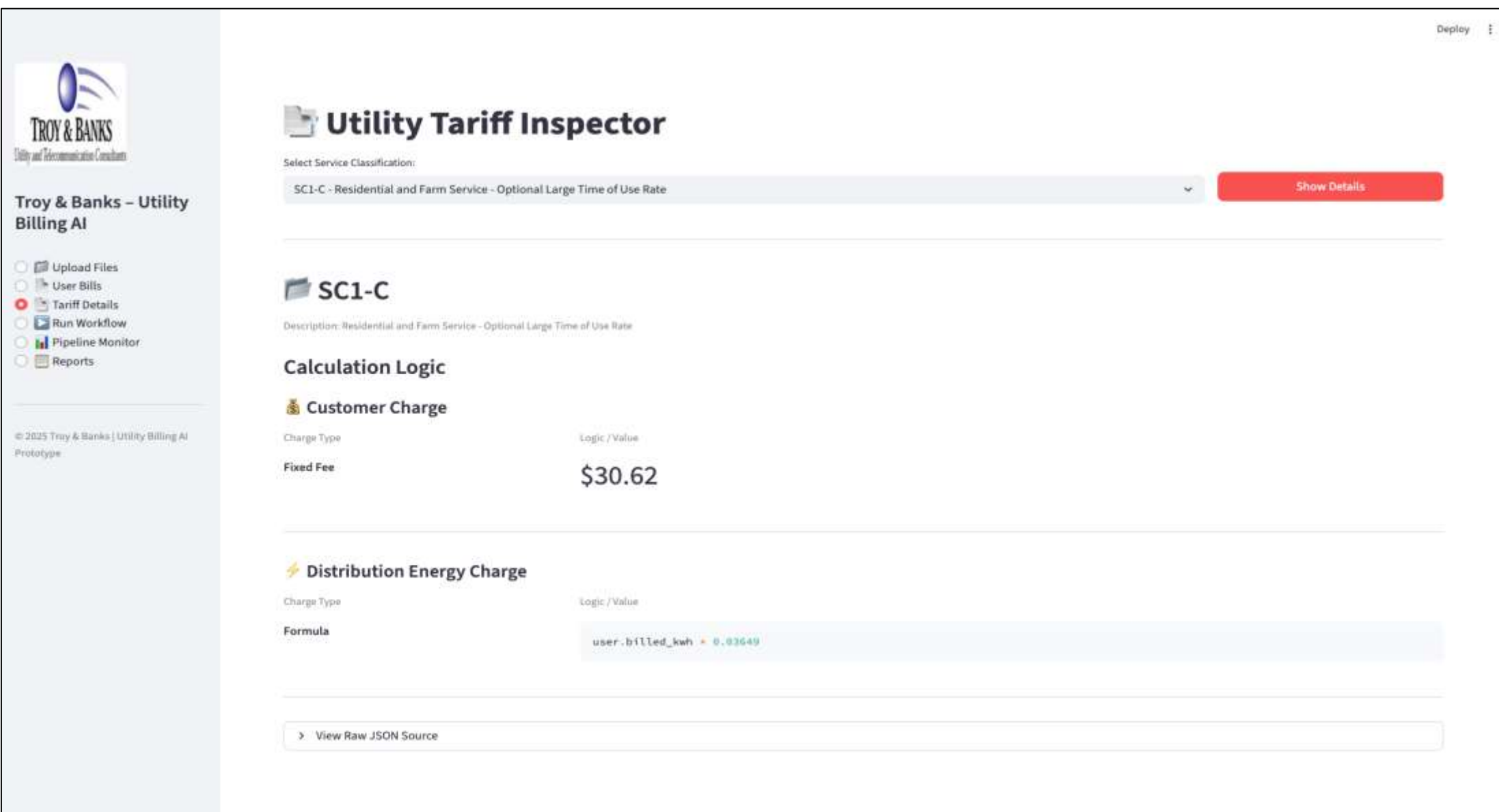
DASHBOARD :



Smart Billing Audit & Visualization



Universal Tariff Explorer



Instant Tariff Logic

Impact Summary:

Modernization

Replaced manual review with AI extraction and dynamic rule engines.

Scalability

Delivers immediate accuracy and dramatic time savings.

Strategic Value

Transforms the client into a proactive, data-driven financial consultancy.

Voice of Our Client:

Troy & Banks is thrilled to have partnered with the amazing graduate students of the UB Graduate Program...! This project will reduce the result time tremendously, allowing our clients to receive cost savings sooner. Troy & Banks considers our UB team of data scientists' part of the T&B family.

— Kevin Gibbs ,
VP of Strategic Partnerships, Troy & Banks

TECH STACK : Streamlit, python, OpenAI, PostgreSQL, Apache Airflow, docker, SQLA, GitHub, Jupyter, etc.