

Anti-money Laundering Through Federated Learning



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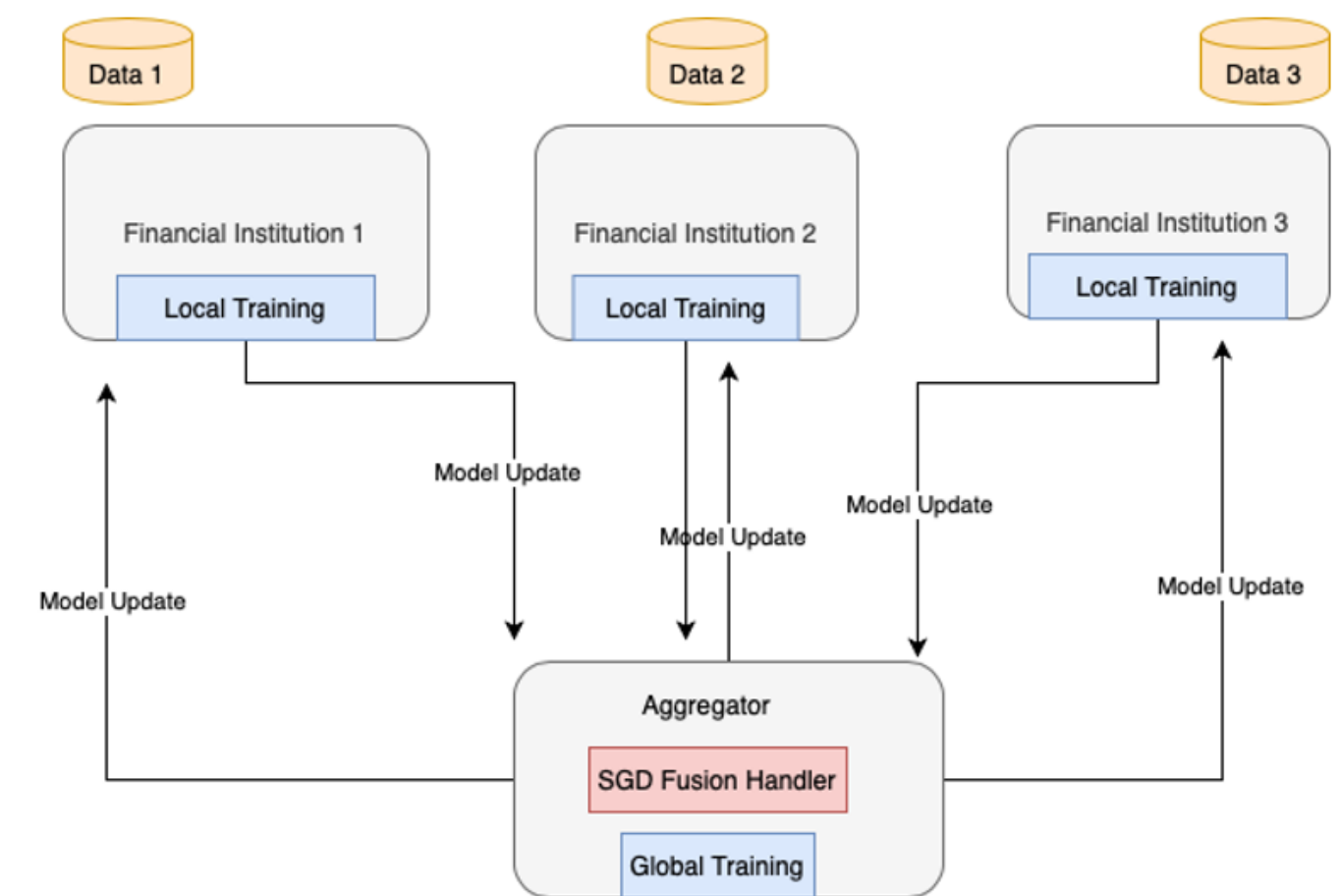
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PROJECT BACKGROUND AND GOAL

Money laundering is a growing problem across the globe as criminals seek to convert illegally gained profits into legal financial instruments.

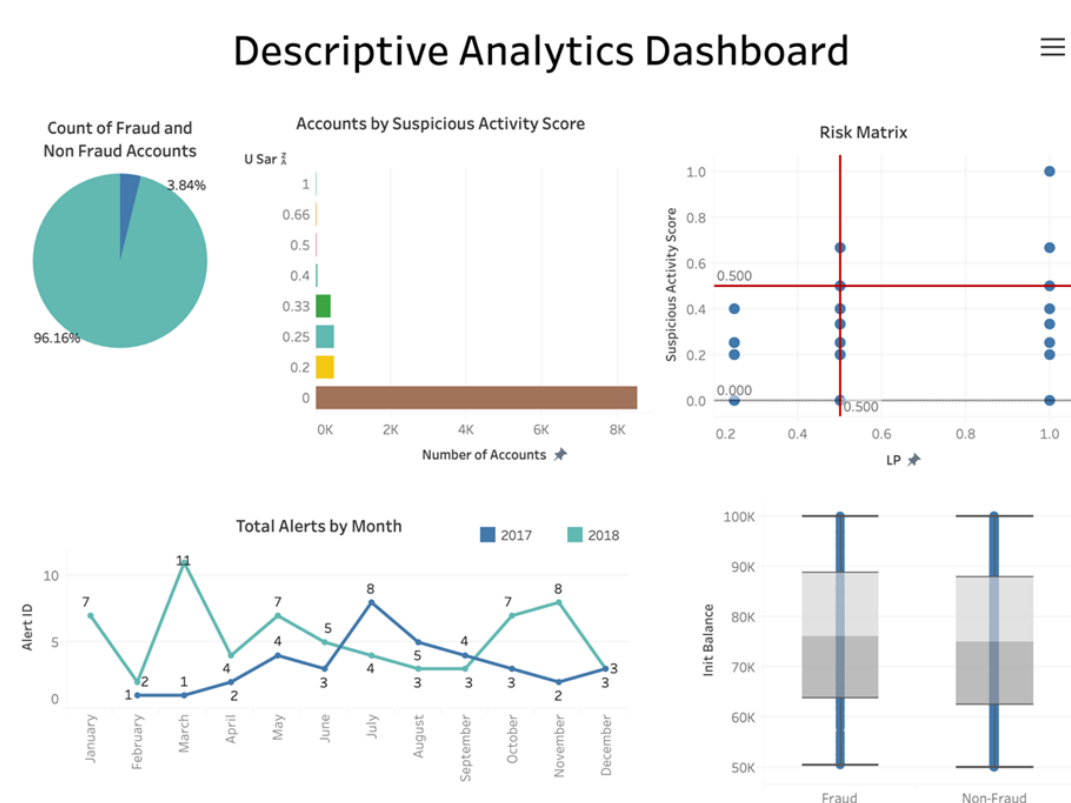
As financial institutions have become more decentralized and customer transaction have become more globally interconnected and at the same time more anonymous, traditional methods of detecting money laundering (rule-based systems and “know your customer” regulations) no longer keep pace with the evolving ways that criminals launder money. In addition, banks and customers alike have vested business and privacy interests that work against them sharing financial information—including the financial information of money launderers—across institutions. To combat this problem, this project proposes training a decentralized model that updates based on patterns and not on private financial information of the bank or customer.

IBM Federated Learning

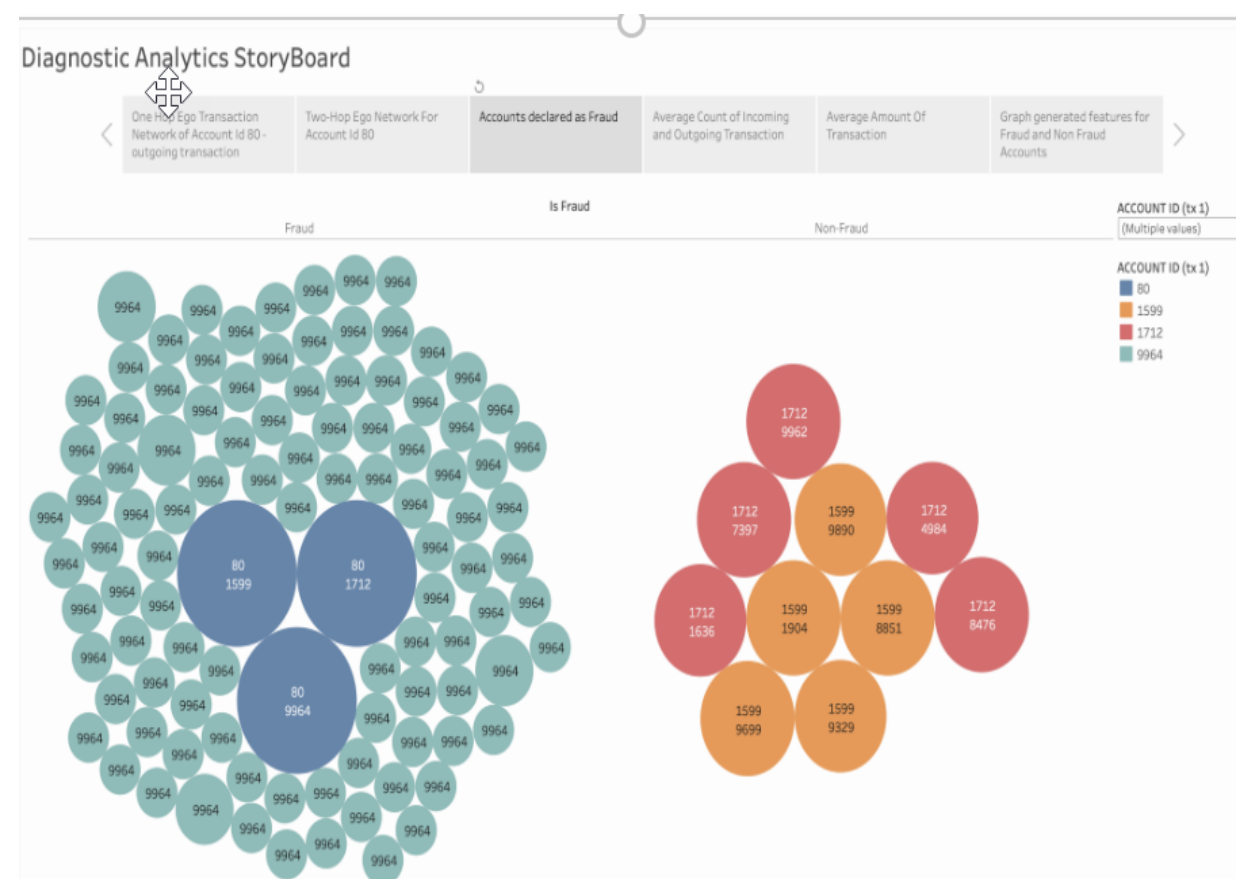


ANALYTIC TECHNIQUES & TECHNOLOGY

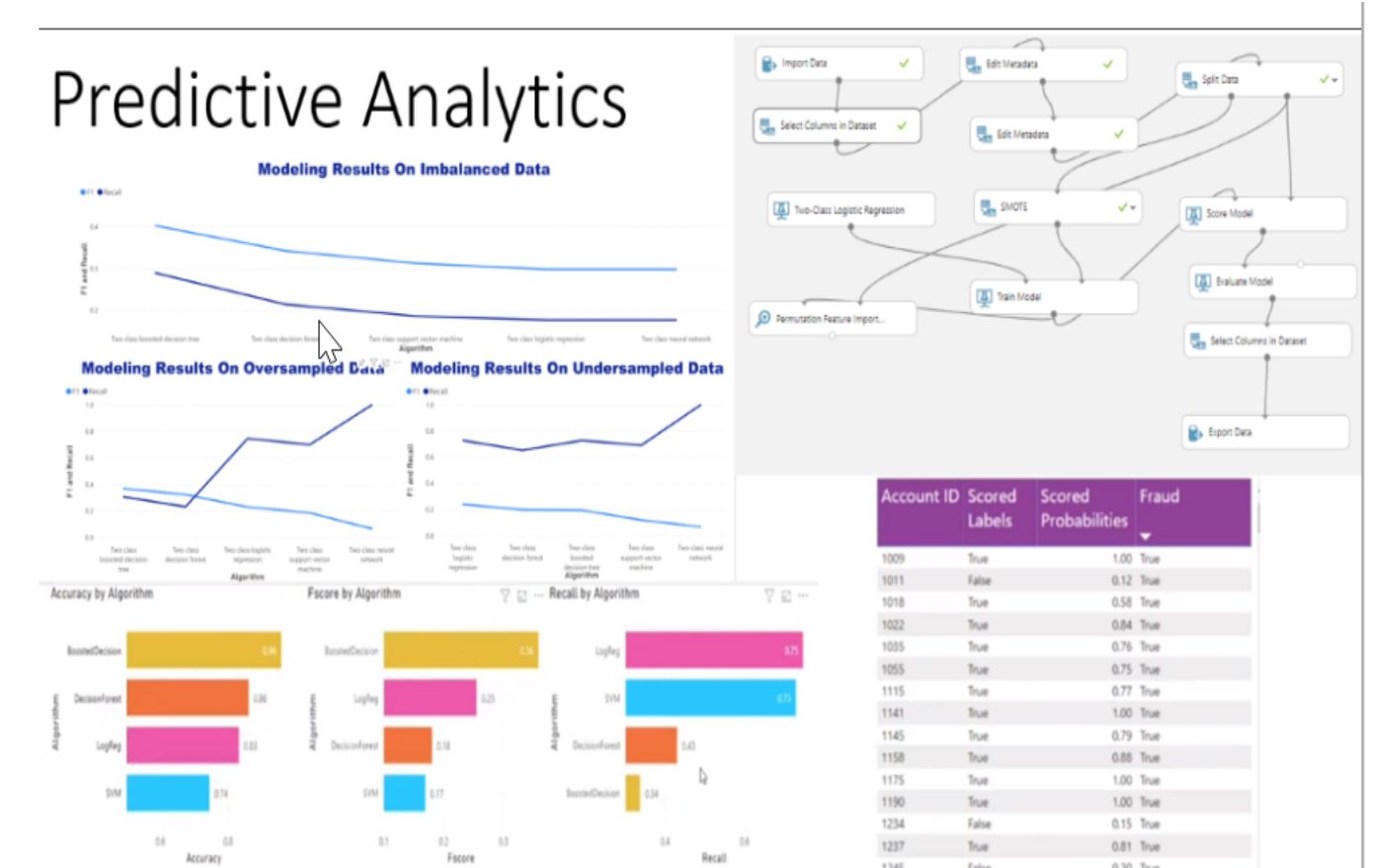
Descriptive



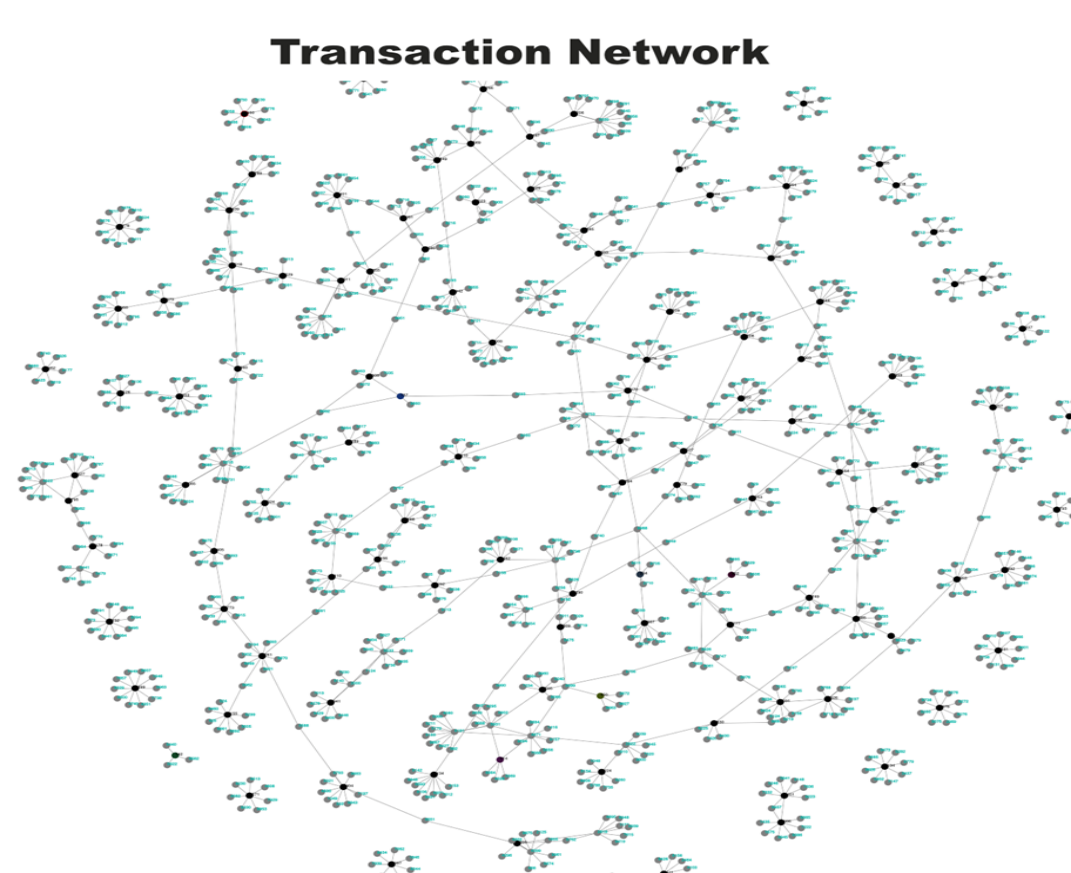
Diagnostic



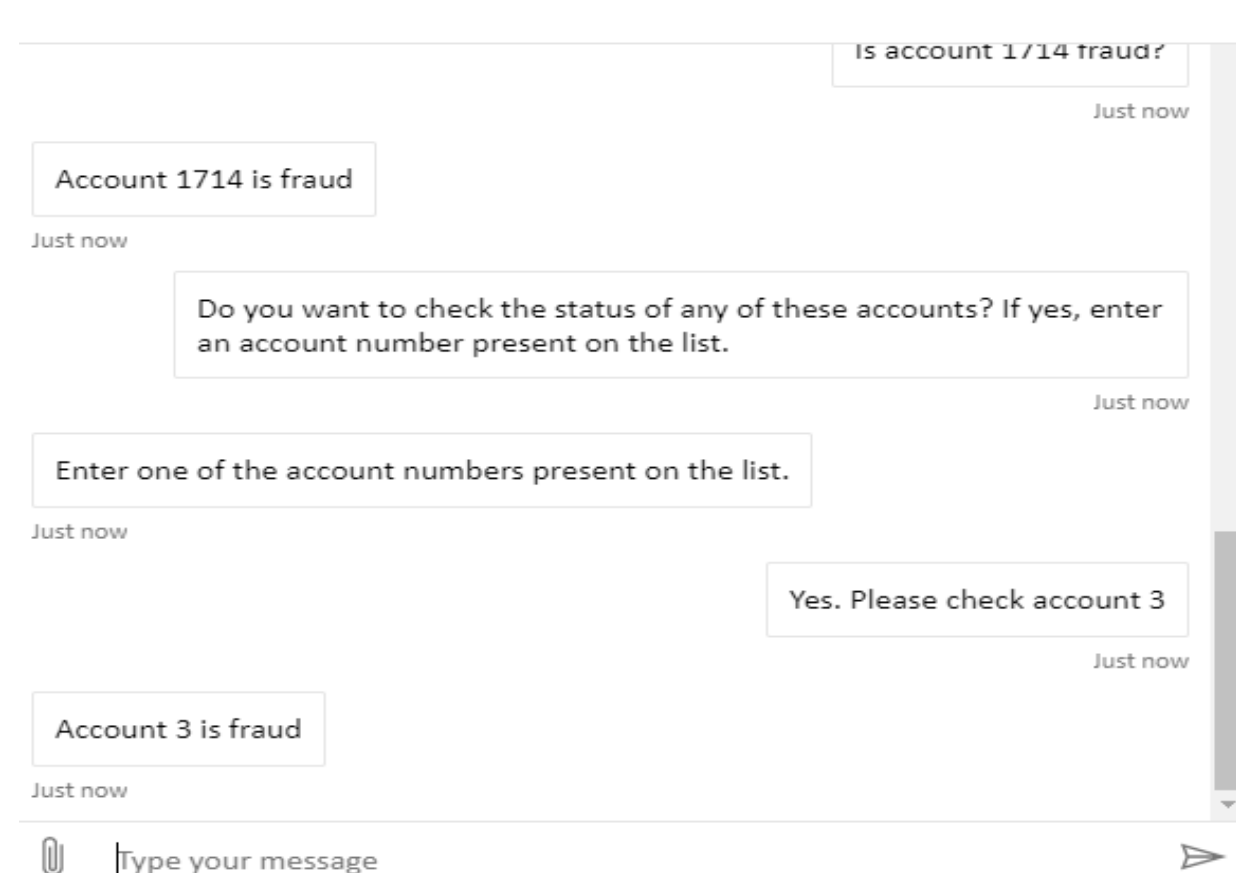
Predictive



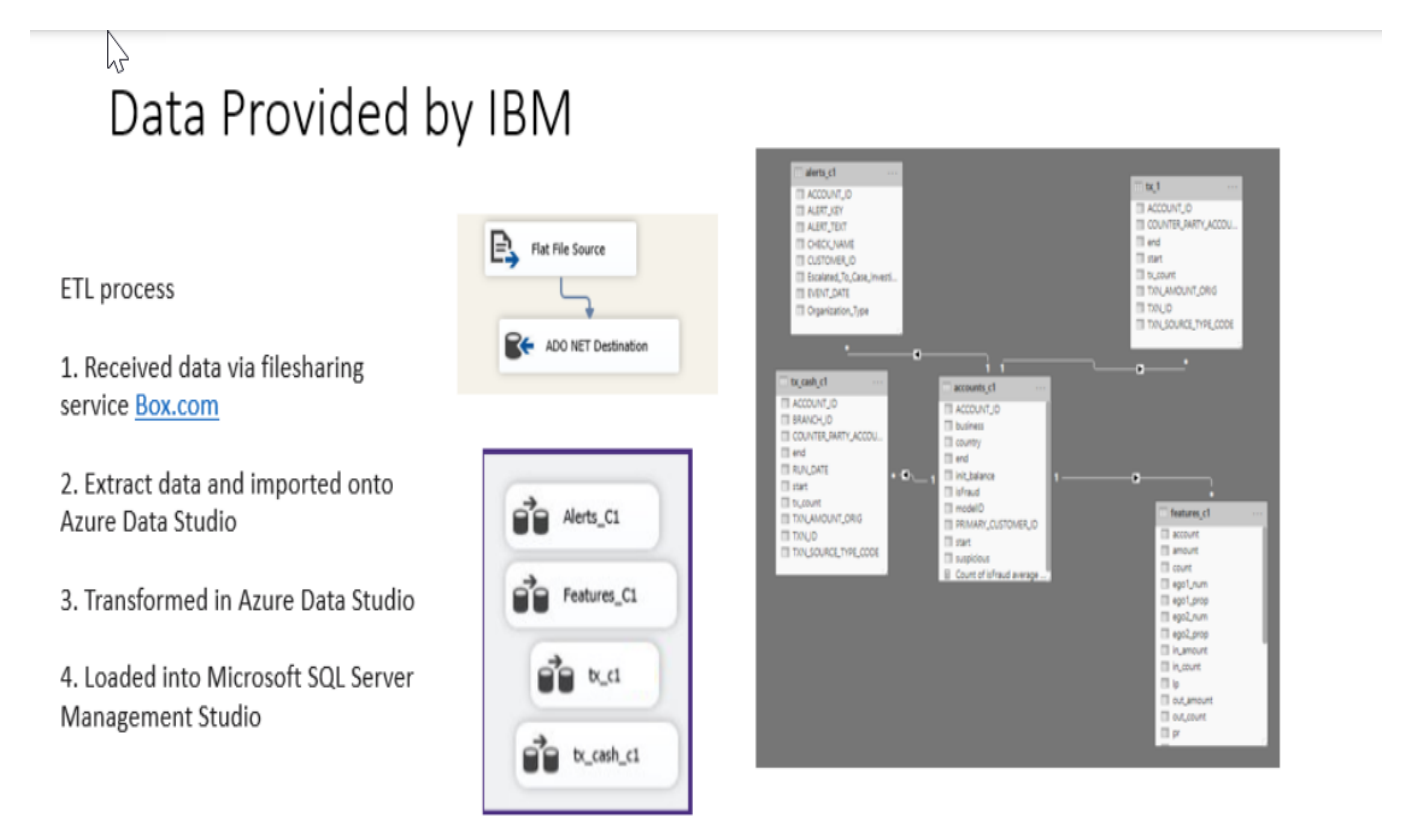
Prescriptive



Cognitive



Data Architecture



PROJECT INSIGHTS

Federated Learning Protects Privacy: In Federated Learning, data privacy is preserved by “bringing code to the data, rather than data to the code.” Since a Federated Learning model does not share raw data across the model, but instead only shares feature updates across the model, customer privacy is preserved.

Federated Learning Enhances Fraud Detection: In a Federated Learning environment, patterns of fraud can be shared across institutions, leading to the detection of fraud that would otherwise fly under the radar of traditional detection techniques (rule-based methods).

RECOMMENDATIONS

Implement Federated Learning in IBM anti-money laundering financial solutions.

Scale Federated Learning to other IBM customer and industry segments and markets, including healthcare and medicine.

Additional cognitive analytics solutions can be paired with Federated Learning to enhance the user experience and glean additional insight.

