



LARUS

Reducing fraud with AI-enabled databases



Graph databases are an alternative to relational databases, which process connections to better understand data. By integrating Fujitsu's AI technology, LARUS wanted to make its Galileo.XAI solution smarter and faster. Galileo.XAI can also unlock new insights thanks to the Deep Tensor core engine.

Challenge

LARUS wanted to introduce an AI component to its graph-based database platform to enable it to detect new fraud patterns faster with fewer false positives. It turned to Fujitsu for advice.

Solution

LARUS and Fujitsu integrated Fimplex EnsemBiz Deep Tensor machine learning technology with Galileo.XAI to create an explainable AI-enabled graph data platform.

Outcomes

- Fraud detection improved from 72% to 89%
- False positives reduced by 63%
- Delivers the speed, scalability, and accuracy required



“Fujitsu has really helped drive this project and push the boundaries of innovation. The results have exceeded our expectations.”

Lorenzo Speranzoni, CEO, LARUS

Industry:
Technology

People:
<50

Location:
Italy

Website:
larus-ba.it

About the customer

Headquartered in Venice, Italy, LARUS helps companies around the world create large-scale, data-driven platforms, based on the latest technologies. As a worldwide Neo4j partner, its certified professionals have been helping universities and companies succeed with the world's leading graph database for over a decade. LARUS has extensive experience in different domains, from government, insurance, and financial institutions to manufacturing, retail, and telecom.



72% - 89%
improvement in fraud
detection rates

Transforming our approach to databases

LARUS specializes in the ecosystem of graph databases, an alternative to traditional relational databases, which store and process connections and relationships to better understand rich data. However, creating a graph-based platform is a complex task because of the algorithms involved.

LARUS developed its Galileo.XAI solution—a graph-based platform for explainable artificial intelligence (AI)—with powerful data analytics and visualization tools. However, the company needed to find the right AI partner to supply the smarts at the heart of the system.

“In the past, we used many different tools to get results, including notebooks, graph tools, and custom coding,” explains Lorenzo Speranzoni, CEO at LARUS. “Galileo.XAI is the glue which holds everything together to provide an end-to-end, off-the-shelf graph database solution. And the AI which makes it all work comes from Fujitsu.”

Introducing Graph XAI

Fujitsu's Finplex EnsemBiz offers users functionality ideally suited to financial services applications, with added capabilities based on the Graph XAI technology developed by Fujitsu. Deep Tensor technology can analyze and utilize relationships between graph structure data automatically and efficiently, making it possible to detect illegal transactions such as circular trading fraud, which has proven difficult with conventional technologies.

Since January 2020, LARUS and Fujitsu have collaborated on a number of proof-of-concept (POC) trials in the financial services space, including POCs aimed at preventing the illegal use of credit cards and illegal automobile insurance claims. This has resulted in increased detection rates and decreased false detection rates.

“Our approach is different: we don't see each data point as separate, rather every transaction is seen as part of a larger ecosystem,” adds Speranzoni. “We create context around the data, enabling us to detect patterns that traditional systems miss.”

Boosting fraud detection while reducing false positives

LARUS Galileo.XAI gives its customers the ability to discover common trends that were previously unnoticed, which leads to fresh business insights. It boosts the speed, scalability, and accuracy required by customers such as banks, healthcare organizations, and universities.

As part of the POC, data from credit card companies was used to demonstrate fraud detection in circular transactions. Galileo.XAI has improved fraud detection rates from 72% to 89%, while false positives have reduced by 63%, compared to traditional methods that use manually defined rule bases.

“We can add value to banks' existing systems and capitalize on their significant fraud investments by identifying new patterns. We eradicate more of the false positives, so we are not wasting time on false alerts,” concludes Speranzoni. “Fujitsu has helped drive this project and push the boundaries of innovation to transform ideas into reality. We have worked together from the outset and the result has exceeded our expectations.”

Galileo.XAI

Fujitsu

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