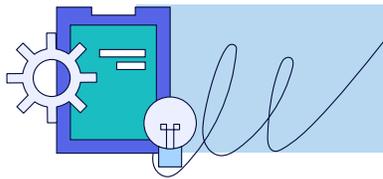# CASE STUDY

**Drive Actionable Data Classification
And Use With Deep Learning Using
Amazon Web Services**

softserve
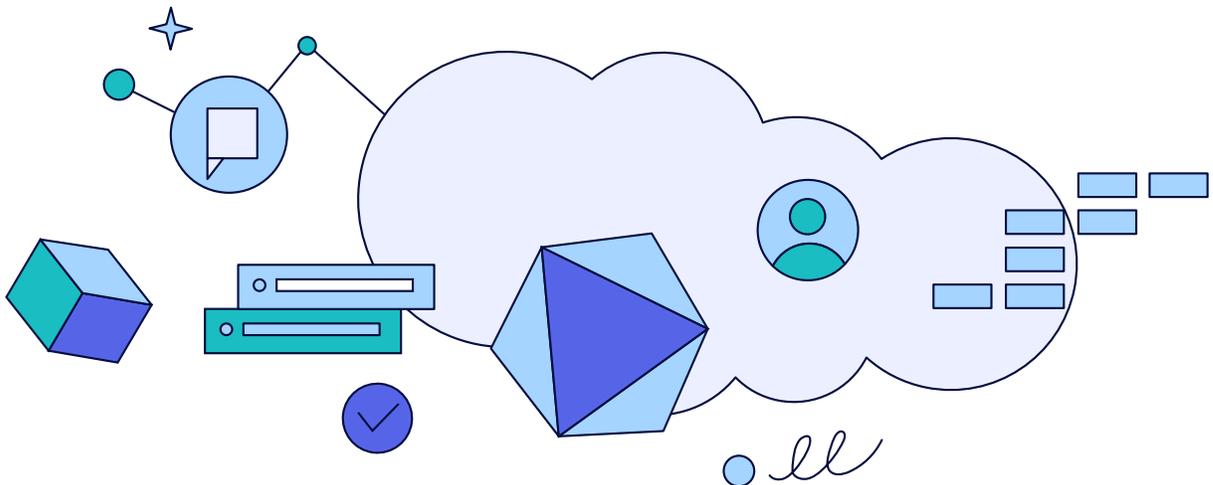
ANALYZE, MANAGE, AND MONETIZE YOUR BUSINESS DATA SETS.

Our client—a North American data service provider—collected a large amount of data from a variety of sources but saw limited monetization opportunities for it. In its current state, the unstructured data lacked usable dimensions for creating analytics without extensive additional processing. One area the client sought to evaluate was the transaction entity. This could provide an analysis of the dynamics around a benefactor's payment. Yet even a simple rules-based system couldn't analyze the data effectively due to issues including entities with very close names that made processing impossible.
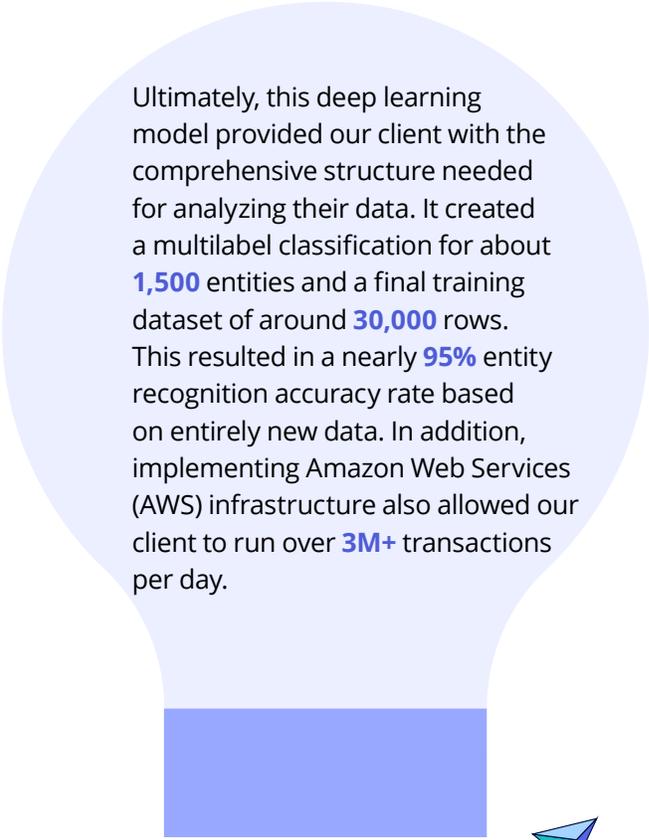
The client approached SoftServe about finding a solution to extract this kind of monetizable information from their data.
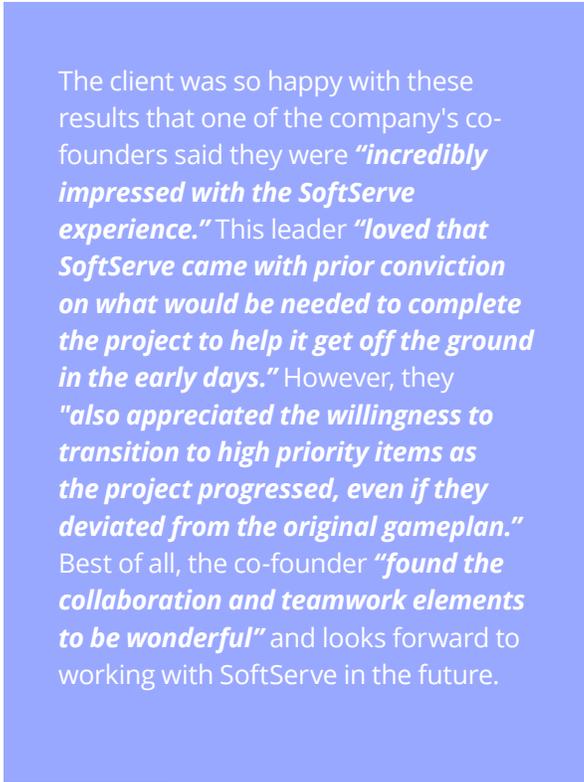
Our experts collaborated with the client's team and concluded that a deep learning model was required. The model would be based on active learning principles, accelerating the creation of a training dataset interactively.
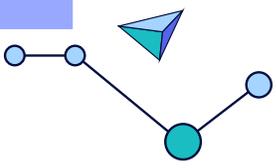
To solve the classification issue, SoftServe's team used entity names as a target variable and transaction names as the model input. We built the deep learning model architecture by embedding and using bidirectional LSTM layers with a DistilBert transformer tokenizer. For around 2M trainable parameters, this structure kept the model at less than 25MB.

Ultimately, this deep learning model provided our client with the comprehensive structure needed for analyzing their data. It created a multilabel classification for about **1,500** entities and a final training dataset of around **30,000** rows. This resulted in a nearly **95%** entity recognition accuracy rate based on entirely new data. In addition, implementing Amazon Web Services (AWS) infrastructure also allowed our client to run over **3M+** transactions per day.

The client was so happy with these results that one of the company's co-founders said they were *"incredibly impressed with the SoftServe experience."* This leader *"loved that SoftServe came with prior conviction on what would be needed to complete the project to help it get off the ground in the early days."* However, they *"also appreciated the willingness to transition to high priority items as the project progressed, even if they deviated from the original gameplan."* Best of all, the co-founder *"found the collaboration and teamwork elements to be wonderful"* and looks forward to working with SoftServe in the future.

Finding a way to manage, structure, and monetize massive amounts of data requires a digital authority with the experience of building deep learning solutions. SoftServe's extensive deep learning expertise meant our client could successfully utilize their data and drive new opportunities.

LET'S TALK about how SoftServe can transform your business by structuring, analyzing, and monetizing your data using AWS and deep-learning solutions.

ABOUT US

SoftServe is a digital authority that advises and provides at the cutting-edge of technology. We reveal, transform, accelerate, and optimize the way enterprises and software companies do business. With expertise across healthcare, retail, energy, financial services, and more, we implement end-to-end solutions to deliver the innovation, quality, and speed that our clients' users expect.

SoftServe delivers open innovation, from generating compelling new ideas, to developing and implementing transformational products and services.

Our work and client experience is built on a foundation of empathetic, human-focused experience design that ensures continuity from concept to release.

We empower enterprises and software companies to (re)identify differentiation, accelerate solution development, and vigorously compete in today's digital economy. No matter where you are in your journey.

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