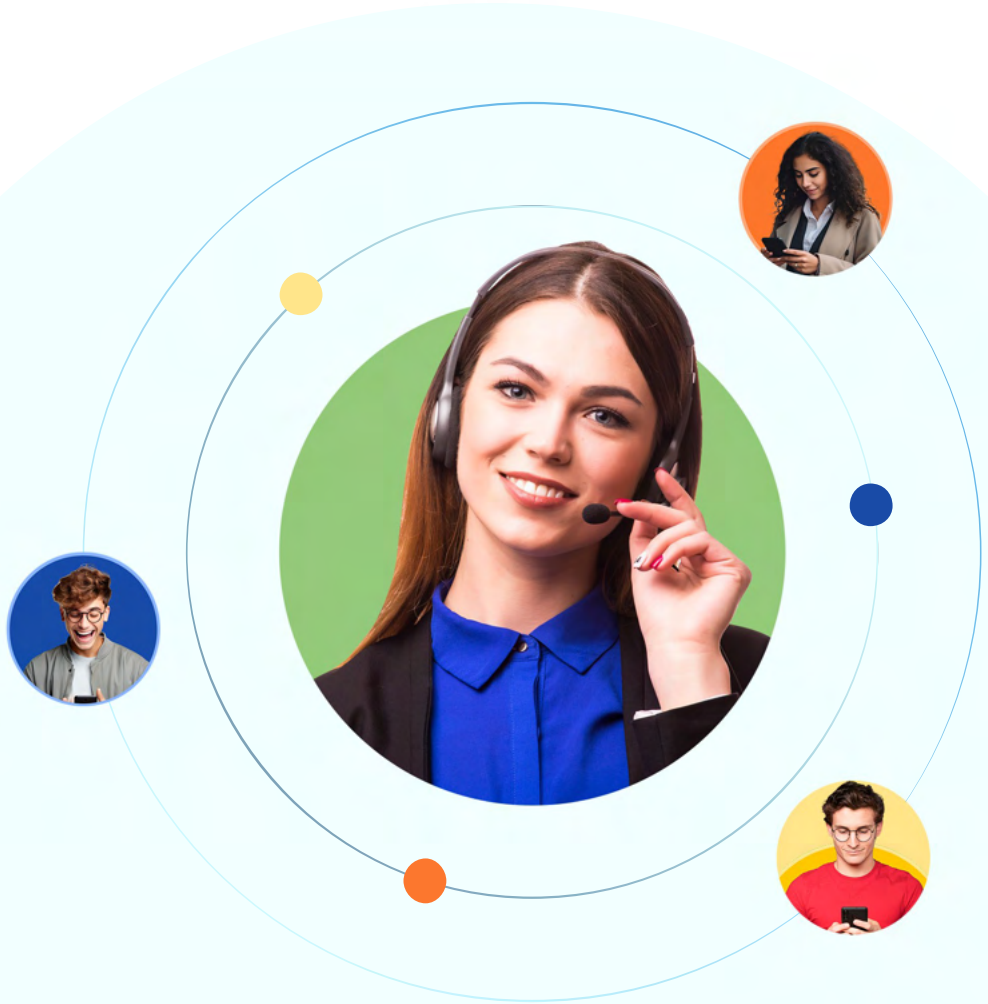

ORI's Gen AI-based Speech Analytics

Client

A leading financial services provider sought to leverage AI-driven insights to bring predictability into collections forecasting and improve strategic planning by analyzing conversations between field collections agents and end customers.

Problem Statement

The client needed to analyze its collection calls to forecast due amounts more accurately, enhancing planning and resource allocation. The goal was to evaluate the ability of a speech analytics system to capture critical insights and events in customer conversations with high precision.

Challenges

Ensuring accuracy to support reliable forecasting was key to the solution. Several factors complicated the analytics process:

Mono Calls:

Both agent and customer audio were on a single channel, limiting clarity and complicating analysis.

Uncharacteristic Background Noise:

Unlike traditional call center calls with easy-to-filter mid-frequency chatter in the background, these are calls initiated by field collection agents which carry significant, varied background noises from the road, affecting call recording quality.

Non-Linear/Unstructured Conversations:

Since field collections agents initiate the calls, there is a lack of structure/scripts to the conversations, unlike in a traditional contact center setup, making it more challenging to derive insights accurately.

Methodology

ORI deployed a sophisticated fine-tuned Gen AI-based speech analytics system capable of granular speaker diarization with cross-talk inferencing, differentiating agent and customer voices within single-channel audio. Post-diarization, each call was analyzed against the client's quality audit standards, including language identification, call disposition, call summarization, customer sentiment analysis, and adherence to the client's ethical guidelines. The analysis was conducted in a post facto manner, where the client sent daily calls for review.

ORI with aws

Amazon Bedrock:

To derive actionable insights from the client's collection conversations, Llama3 70b imported on Amazon Bedrock was fine-tuned on the domain and use case-specific data, stated metadata, objections, and customer-agent conversations. This fine-tuned model helped ORI achieve significant insights around call categorization analysis, voice of customer analysis, and collection propensity analysis.

High-Performance GPUs:

Amazon EC2 G6e high-performance GPUs were utilized to deploy ORI's custom Automatic Speech Recognition (ASR) models that enabled ORI to efficiently process thousands of hours of speech data, transforming audio inputs into precise and structured text outputs.

This seamless combination of cutting-edge computational infrastructure and state-of-the-art fine-tuned Large Language Models ensured robust scalability and highly accurate speech analysis.

Results

The client set a target accuracy rate of 70% for the system to be viable. ORI's solution overachieved all parameters, delivering phenomenal results:

91.28%	92.1%	89.47%	92.11%
overall accuracy on all parameters.	Call disposition accuracy	Call summary accuracy	Customer sentiment analysis accuracy

Conclusion

By implementing ORI's Gen AI-based speech analytics, the client gained high-accuracy insights from complex call data, enabling improved financial forecasting and collection process efficiency, despite significant environmental and technical challenges.