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The Future of Collections:

An Introduction to Large Collection Models

How Skit.ai Leveraged Generative AI and Consumer Interactions To Build a Collection Propensity Score

Executive Summary

Leveraging interaction data from 50 million collection calls, Skit.ai's machine learning team built a Generative AI-powered Large Collection Model to predict collection propensity based on consumer demographics and debt details.

The Large Collection Model can guide creditors and collection agencies in executing successful recovery campaigns by identifying engagement patterns. The resulting data can help execute a more personalized plan for each account—such as the optimal communication channel, number of attempts, and time to connect.

In this white paper, you will learn:

- How we developed the Large Collection Model
- How we verified the accuracy of the Collection Propensity Score
- The findings and takeaways from the study

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Generative AI in the Collections Industry

As a leading technology provider for the accounts receivables industry, Skit.ai has been leveraging Generative AI to automate collection processes for creditors and collection agencies. By automating consumer conversations, we have helped our partners save on agent efforts.

Skit.ai's multichannel platform engages consumers via voice, SMS, email, and chat in intelligent, human-like conversations. With Conversational AI, repetitive tasks typically handled by live agents can be automated, including right-party contact verification, payment plan negotiations, and payment processing. This end-to-end automation of the collection journey frees up agent bandwidth and reduces collection costs, empowering live agents to focus on critical escalations, disputes, and other critical tasks.

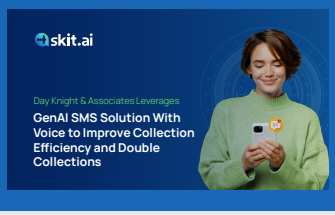
Conversational AI has significantly lowered call center costs and maximized recovery rates. This transformation has enabled collection agencies to increase their top line while reducing creditor charge-offs. Automated interactions, shorter AHTs, and zero-hold time have enhanced consumer engagement, as reflected in improved CSAT and NPS scores.

What Are Large Collection Models?

Generative AI models today can synthesize music, create art, and generate videos—the sky is the limit. However, what has piqued immediate public curiosity is the emergence of large language models (LLMs), a subset of Generative AI capable of understanding and processing complex inputs and generating nearly human-like text responses. LLMs like Gemini and ChatGPT are already being widely used for various tasks, from completing school homework to detecting financial fraud.

Skit.ai's GenAI-powered multichannel conversational platform is already transforming the collection industry. This has enabled consumers to achieve a **10X ROI** on their GenAI investments, reduce collection costs by **63%**, double collection rates, and improve connectivity rates by **2X** and RPC rates by **2.1X.**

Read the case study here to learn more about the impact of Skit.ai's multichannel collection platform.



Yet, there is still much work to do to mitigate collection process inefficiencies. Collection processes are often not structured as targeted and personalized campaigns. For example, even the most technologically advanced collection agencies make voice calls to their entire consumer base. Traditional wisdom dictates that "call centers" are central to collection efforts, but many Americans do not pick up calls from unknown caller IDs. Gen Z and millennials are increasingly shifting to digital channels. The "one size fit all" approach is inefficient and leads to poor consumer experiences.

Additionally, many creditors and collection agencies sit on a goldmine of unused consumer data. For risk profiling, most financial services companies use credit scores as a benchmark to understand and forecast charge-offs and delinquencies; but credit scores do not account for consumer behavior, which can be accessed from the organization's CRM. CRMs may contain up to two decades of data detailing the best times to engage with consumers, the number of attempts needed, payment amounts, payment methods, and much more. When combined with individual consumer data such as debt type and age of debt, an LLM model can help generate detailed consumer risk profiles.

These LLM models—which we've named Large Collection Models—benefit creditors and collection agencies in two ways.

How Creditors and Collection Agencies Can Benefit from Large Collection Models

Collection Strategy

Consumer allocation can be segmented into high-risk to low-risk categories based on the risk profile. An effective approach can be determined at the start of the allocation. "Soft Conversions" can be targeted through less intrusive channels like SMS and email. "Hard Conversions" can be handled through agent calls or more targeted interactions. Voice automation platforms can be used for intermediate cases. These optimization strategies help reduce collection effort and time, thereby lowering costs.

Collection Execution

Identifying the optimal communication channel and time for consumer engagement can lead to more productive conversations, making the overall collection process more efficient. Unfocused campaign execution and multiple connection attempts reduce agent productivity and increase outreach costs, affecting CX and CSAT scores. Large Collection Models will determine the best channel and timing to engage with consumers, resulting in higher collection rates, reduced collection efforts, and reduced charge-offs.

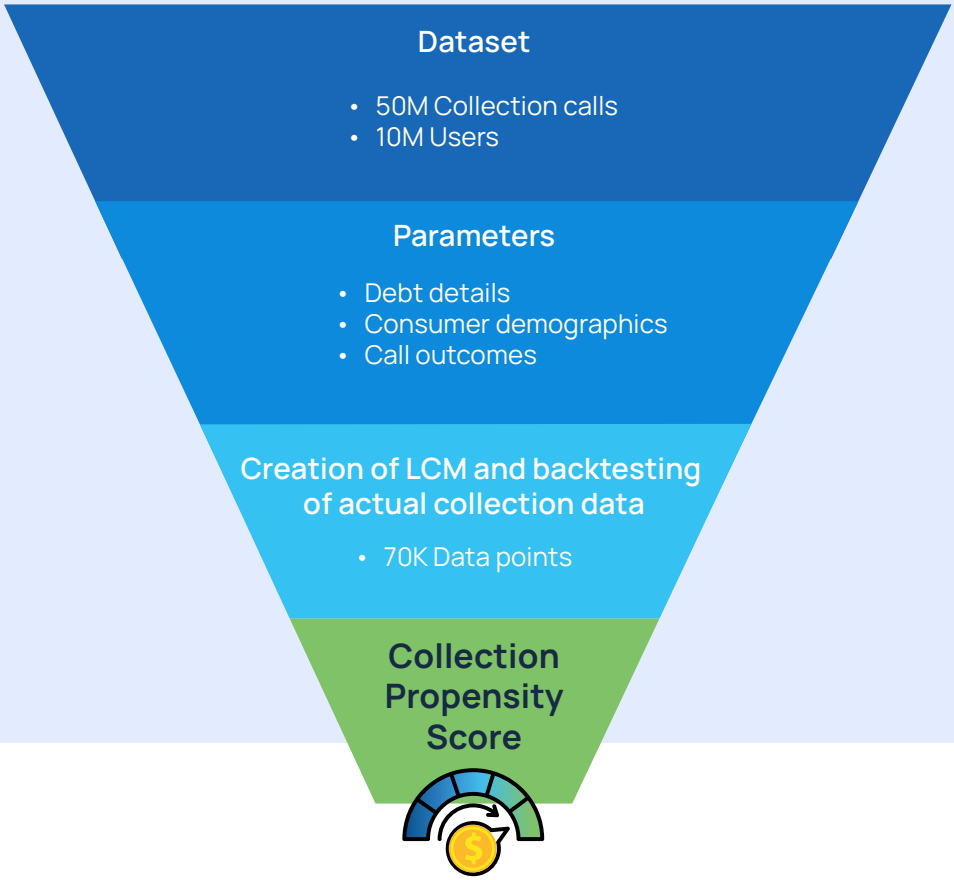
The Development of a Large Collection Model

Skit.ai has partnered with over 100 collection agencies across the United States, dialing over 50 million collection calls and interacting with 10 million consumers. For the collection calls to occur, the Conversational AI solution is provided with the account information; the data may include date of birth and zip code for consumer verification, as well as details of the debt. This data can be used to determine the debtor's age and regional information.

To develop our Large Language Model, we used parameters such as debt age, consumer age, zip code, outstanding balance, and call outcomes (e.g., payment made, call disconnection, refusal to pay). This particular model is designed to create consumer risk profiles, thereby defining the collection strategy.

After building the LCM and training it on over 50 million collection calls, we needed to verify its accuracy in identifying consumer risk profiles. To do this, the model needed to be backtested on a dataset that had not been used in training. One of our new clients, based in Missouri, helped us with this and provided over 70,000 data points based on unique consumer interactions and payment history for testing the model. These interactions included both agent calls and Voice AI calls.

The Development of Skit.ai's Large Collection Model



LCM Accuracy Verification

Collection Propensity Score by Skit.ai's LCM

Approximately 70,000 data points were input into Skit.ai's Large Collection Model (LCM), and all the accounts were given a "Collection Propensity Score." The score was normalized to range from 0 to 1 (with 0 being the lowest and 1 being the highest), indicating the likelihood of collecting from each account.

Using these scores, the accounts were divided into ten equal categories. The top 10% [0%-10%] had the highest scores, and each subsequent group had progressively lower scores, with the bottom 10% [90%-100%] having the lowest scores.

Score Validation

The accounts were compared to the actual outcomes when the calls were made to validate the LCM's predictions.

The ideal scenario: If Skit.ai's LCM were accurate, individuals with a higher "Collection Propensity Score" would have made more payments than those with a low score.

The comparison showed that the LCM accurately predicted collection probabilities. The group with the highest scores [0%-10%] achieved a 17.6% collection rate, the highest among all groups. Conversely, the group with the lowest scores [90%-100%] had the lowest collection rate of 5%.

Actual Collection vs LCM Score (0-10 highest, 90-100 lowest)

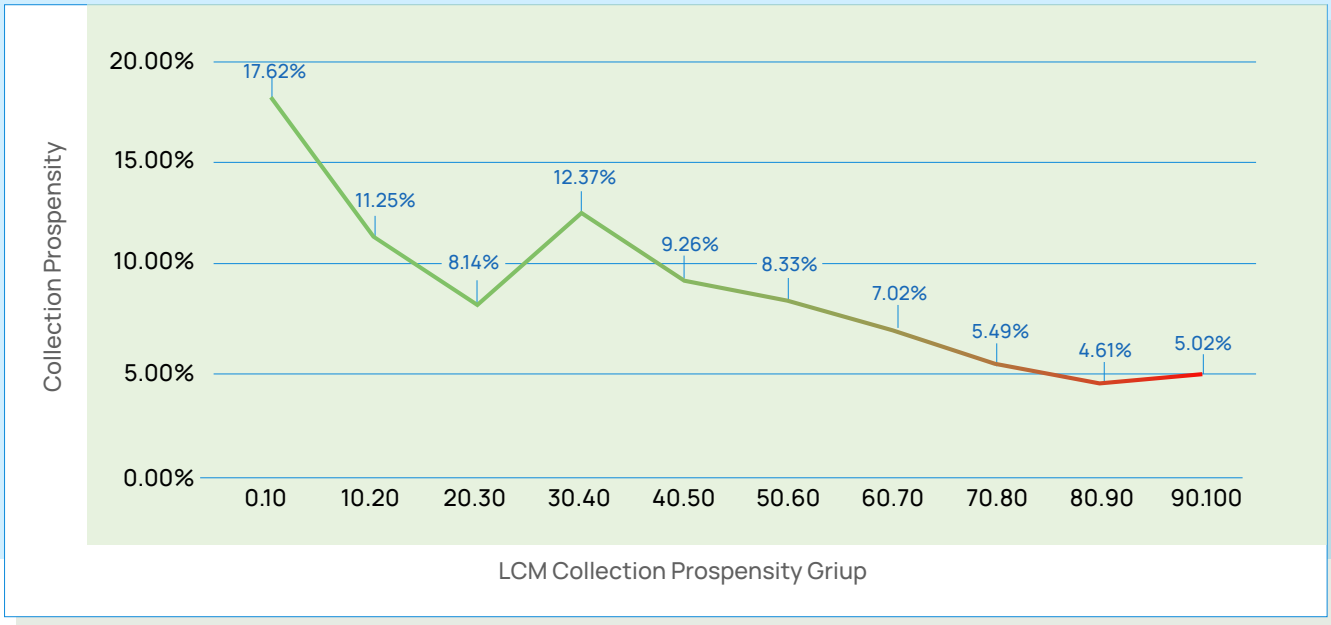
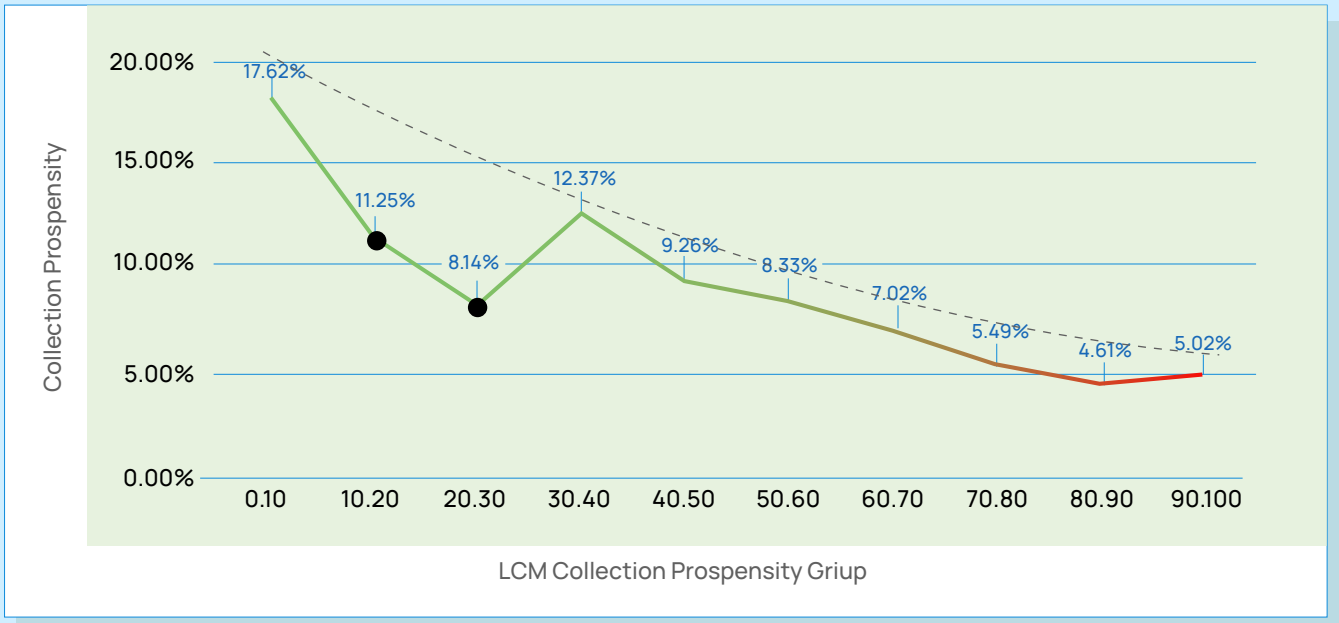


Fig: Collection Propensity Scores by Skit.ai's LCM vs. Actual collections for each group

The graph shows a continued decline, demonstrating that the **LCM effectively predicted the risk profile and collection probabilities,** with the exception of the [20%-30%] group.

Observation

A skeptical view might suggest that the LCM failed to accurately predict the risk profile for the [10%-20% and 20%-30%] groups, as collections were lower than predicted. However, there is a valid reason for this anomaly. If the model were incorrect, the overall trend in the other eight data points would not have aligned with the LCM prediction.



So what is the explanation?

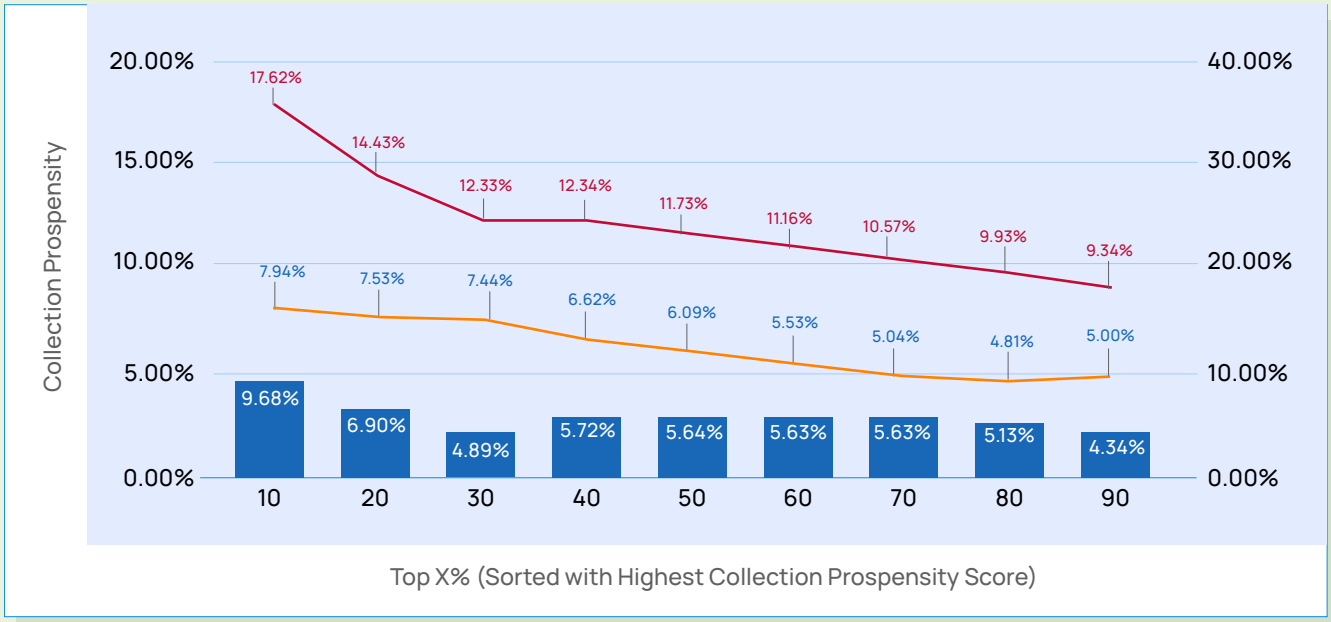
If real-world collection efficiency had perfectly aligned with the LCM's predictions, one could argue that the collection agency had streamlined its processes, collecting the most from the low-risk consumers and the least from the high-risk ones. Therefore, an LCM would not offer further help.

The graph suggests that the recovery efforts were not correctly distributed. The [10%-30%] group had the lowest collections, indicating that more effort is needed to maximize recovery in this segment.

LCMs can assist collection agencies by redistributing outreach efforts based on the account's collection propensity score. In this case, the LCM would have advised the collection agency to increase outreach efforts for the [10%-20% and 20%-30%] consumer base, possibly using a multichannel approach.

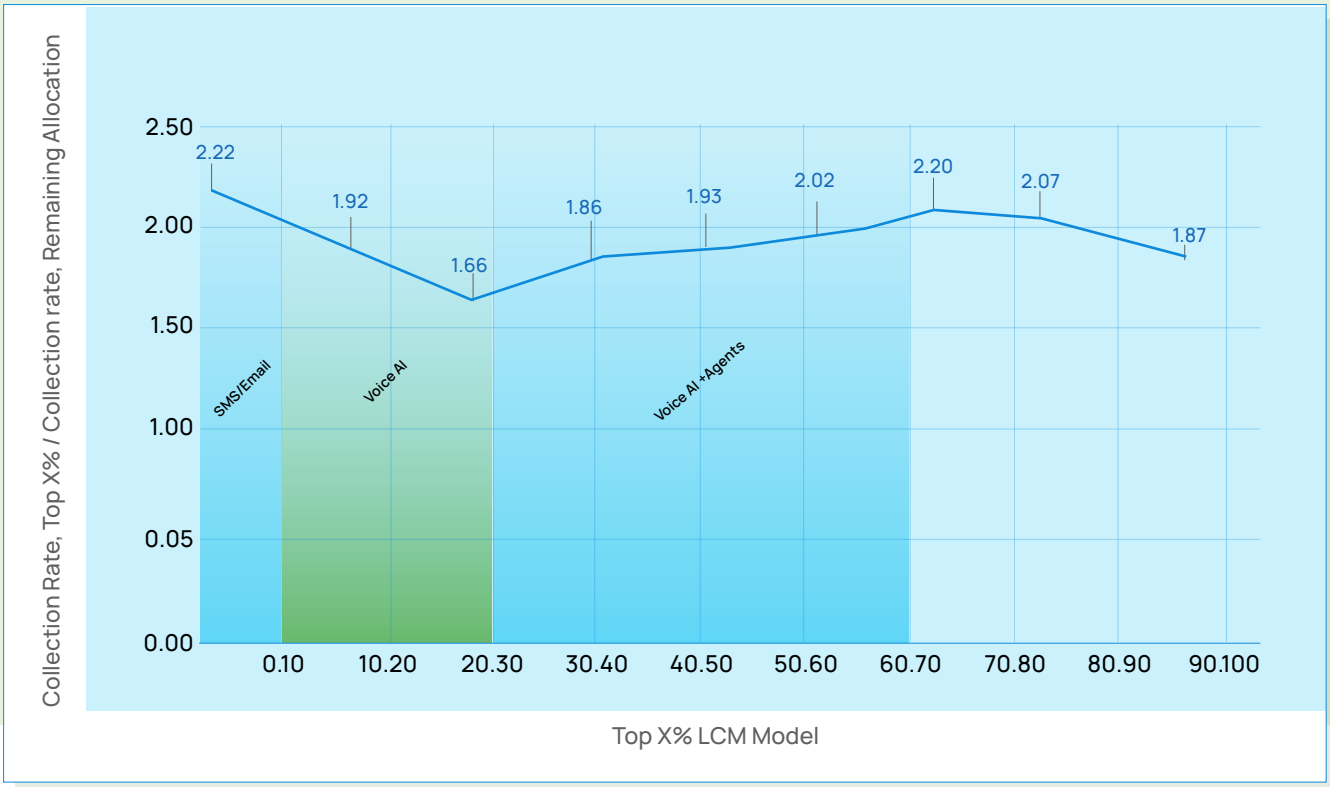
Key Findings

Actual Collection Performance Top X% of the Model vs Remaining



Actual Collection Remaining Allocation Actual Collection at Top X % Diff between two groups

Top X% Collection / Remaining Allocation Collection vs LCM Model Group



The primary role of the Large Collection Model is to provide a strategy based on the Collection Propensity Score.

For instance, the agency should target the top 0-10% segment with SMS or email, as these accounts are low-risk and highly likely to pay, enabling collections at lower costs with minimal effort. For the [10%-30%] segment, which underperforms but remains low-risk, Voice AI calling may lead to the desired results cost-effectively.

For the [30%-70%] segment, a mix of voice automation and agent calling is advisable since the collection rate gap stabilizes around 5.5%.

The collection rate of the top 70% divided by the collection rate of the bottom 30% reaches a maximum of 2.1X, maximizing ROI through conversational automation up to this point. Beyond this, conversion chances drop, and the gap narrows. Live agents should ideally handle this high-risk base to ensure higher collection rates.

The Way Forward

> The Large Collection Model can guide agencies in executing effective collection strategies by identifying engagement outcomes for each account. The outcome data can help strategize and execute a more personalized plan for each account and deliver a successful collection campaign.

The Large Collection Model can guide agencies in executing effective collection strategies by identifying engagement outcomes for each account: no contact, right-party verified but no payment, or collections made. For instance, an account requesting legal representation should be handled by the agency's legal department, while a consumer working night shifts might prefer weekend contact.

LCMs can also suggest engagement parameters such as call pick-up times, email open rates, and SMS response rates. This information helps determine the optimal number of attempts, the best communication channel, and the ideal time to connect.

The outcome data can help strategize and execute a more personalized plan for each account, ensuring a successful collection campaign.

Conclusion

Large Collection Models can significantly streamline collection processes in the following ways:

Identify Underperforming Consumer Segments

The LCM helps balance outreach efforts more effectively by identifying which consumer segments are underperforming. This enables businesses to allocate resources where they can have the most impact, increasing overall collection efficiency.

Establish Better Consumer Engagement

The model can identify the optimal channels and times to reach consumers, enhancing engagement. By understanding consumer behavior and preferences, the LCM ensures that outreach efforts are more likely to succeed, leading to higher collection rates.

Define Effective Strategies

The LCM helps define optimal strategies for collection campaigns, whether through automation, human outreach, or a combination of both. This tailored approach ensures that each campaign is designed to maximize its effectiveness based on the specific needs and behaviors of the target audience.

Maximize Consumer ROI

The LCM maximizes return on investment by reducing the effort and time required for collections. It helps agencies achieve better results with fewer resources, increasing overall profitability.

Forecast Revenue and Recovery

The LCM can accurately forecast revenue and recovery rates, helping agencies plan and budget more effectively. It also aids in reducing charge-offs by predicting which accounts are most likely to be collected and focusing efforts accordingly.

Contributing to Top Line Growth and Cost Reduction

The LCM contributes to both topline growth and cost reduction by improving collection efficiency and effectiveness. Enhanced recovery rates boost revenue, while optimized processes and reduced resource needs lower operational costs.

Want to learn more?

Schedule a free demo with one of our experts

Visit www.skit.ai

Skit.ai is the leading Conversational AI company in the accounts receivables industry, empowering collection agencies and creditors to automate collection conversations and accelerate revenue recovery. Skit.ai's suite of multichannel solutions—featuring voice, text, email, and chat in both English and Spanish, powered by Generative AI—interacts with consumers via their preferred channel, elevating consumer experiences and consequently boosting recoveries.

Request a Demo

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