

Lenovo, NVIDIA and DeepBrain AI Solution for Customer Service

AI Humans provide cost-effective 24/7 service and are shown to increase the purchase and repurchase rates of the products they promote.

Summary

Customers are frustrated by long lines, and businesses face an ongoing labor shortage. AI Humans paired with Lenovo Edge Servers enable virtual employees to augment staff. The results are shorter lines, reduced costs, higher NPS scores, and a seamless transition to the digital workforce of the future.

Challenge

Labor shortages and high inflation create a challenging environment for most retail businesses. Frustrated customers and long lines exasperate the issues. These problems span all industries where customer service can serve as a key differentiator. Longer than expected wait times and lack of customer support directly lead to loss of sales, decreased brand value and as seen throughout Airports in 2022, critical disruption of business processes.

Solution

Lenovo and NVIDIA, in partnership with DeepBrain AI, offer a solution that creates a virtual employee that can serve customers within an AI-powered kiosk.

These digital employees can understand commands from customers and provide valuable information in a timely fashion. They can be customized to represent different demographics and support the company brand vision, whether in uniform or by reflecting real employees or known personalities.

This solution uses the Lenovo ThinkSystem SE350 Edge Server configured with the NVIDIA T4 GPU to enable video synthesis on the edge. DeepBrain's AI Human solution is integrated to run on the edge server and provide real-time conversational support to customers.



Results

When customers interact with the AI Kiosk, they can converse with a virtual human that has been specifically programmed to handle customer requests. AI Humans in kiosk applications have been deployed in banks, convenience stores, train stations and more.

Validated Architecture

In a kiosk deployment, the user can interact with the AI Human via voice or touch interfaces. For conversational use cases, a microphone array and speakers are included with the kiosk front end. Additional sensors, such as a camera or temperature sensor, can be integrated at the client's request.

The AI Human software running on the SE350 server, powered by a NVIDIA T4 GPU, 8 Core CPU and 32 Gb RAM, provides video synthesis, which generates a natural virtual human or avatar and enables natural conversational interactions with a virtual employee.

The system can also be integrated with additional databases and web searches to provide immediate answers to customer queries. For example, integrating with internal systems to check if a product is in stock or where a product is located within the store.

Design Components

	Servers	Storage	Networking	Accelerator	Software
Edge	Lenovo ThinkSystem SE350	1 Tb SSD	ThinkSystem 1GB 4 port	NVIDIA T4 GPU	AI Humans

Resources

- [Explore the Lenovo AI Innovators Program](#)
- [Explore the Lenovo HPC and AI Innovation and Briefing Center](#)
- [Lenovo Validated Design for AI Infrastructure on ThinkSystem Servers](#)
- [DeepBrain AI Human Overview](#)
- [Kiosk Information System](#)
- [Lenovo and NVIDIA Alliance](#)

Why Lenovo

Focused on a bold vision to deliver smarter technology for all, Lenovo is developing world-changing technologies that create a more inclusive, trustworthy, and sustainable digital society. By designing, engineering and building the world's most complete portfolio of smart devices and infrastructure, we are also leading an Intelligent Transformation – to create better experiences and opportunities for millions of customers around the world.



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