Healthcare | Mexico

Enhancing patient care with AI-driven insights

Artificial Intelligence System for Human Analysis

AISHA leverages AI to enhance the patient experience in medical check-ups by providing faster, more comprehensive insights. The organization trained an AI model to analyze MRI scans using a Lenovo ThinkSystem SR675 V3 server, powered by NVIDIA® H100 NVL GPUs, and the NVIDIA AI Enterprise software suite.

1 Customer background

Who is AISHA?

Artificial Intelligence System for Human Analysis (AISHA) is a healthcare software development company, created as a spinoff from Hospitales Ángeles Health System—the largest network of private hospitals in Mexico, with 27 hospitals and counting.

Founded in 1986 and held by Vazol Group, Hospitales Ángeles Health System prides itself on being 100% Mexican. Its focus is not only providing the best care for the people of Mexico, but also nurturing Mexican talent and innovation.

Hospital Angeles HEALTH SYSTEM

2 The challenge

Aiming to be leaders in healthcare not just in Latin America, but worldwide, Hospitales Ángeles Health System founded AISHA to develop healthcare software solutions that optimize operations and enhance patient outcomes. Recognizing the potential for innovation in preventive medicine, the organization introduced full-body MRI scanning in annual check-ups, enabling a more comprehensive health assessment and empowering patients with deeper insights into their wellbeing.

“In conditions such as certain types of dementia, there are specific areas of the brain that decrease in size even before the patient develops symptoms,” explains Dr Juan Pablo Reyes Gonzalez, Head of AISHA. “Identifying subtle changes through MRI scans when a patient returns for their second, third, or fourth check-up provides valuable insights that can support physicians in making informed decisions.”

2 The challenge

Volumetric analysis (the process of determining organ volumes), is something that radiologists typically do manually. Analyzing a single organ takes about three hours, while a full-body analysis represents three to four days of manual work. To create a truly next-generation check-up experience for its patients, AISHA set out to build an AI model to detect changes on MRI scans, helping doctors identify patients at risk of developing diseases.

To implement the AI model across all 27 hospitals in the Hospitales Ángeles Health System, AISHA first needed to develop a model capable of recognizing over 200 organs and anatomical structures. This advanced system reconstructs a 3D model of the patient from MRI scans, providing a comprehensive view that enhances clinical evaluation and medical decision-making. “We had a huge amount of input data ready to go, but we didn’t have the right infrastructure in place,” recalls Dr Juan Pablo Reyes Gonzalez. “We needed a robust training platform, fast—we faced a tight deadline of under a year to train and launch the AI model.”

“Many companies in Mexico rely on our hospitals to provide private healthcare for their workers. These services include comprehensive medical check-ups, ensuring employees receive regular health assessments that support early detection and preventive care. The contracts with these companies are made annually, on January 1st. If we couldn’t launch the AI solution by that date, we would have to wait another year for release and would incur significant costs.”

Dr Juan Pablo Reyes Gonzalez

Head of AISHA

3 The solution

AI-optimized infrastructure

After a thorough review of the market and several proof-of-concept trials, AISHA selected the Lenovo ThinkSystem SR675 V3 server as its AI training platform.

Powered by four NVIDIA® H100 NVL GPUs and the NVIDIA OVX™ architecture, the Lenovo ThinkSystem SR675 V3 is specifically designed to accelerate AI workloads. AISHA made extensive use of the NVIDIA AI Enterprise software suite, including the NVIDIA CUDA Toolkit development environment, to build and train an initial AI model with more than 100,000 MRI cases.

Hardware

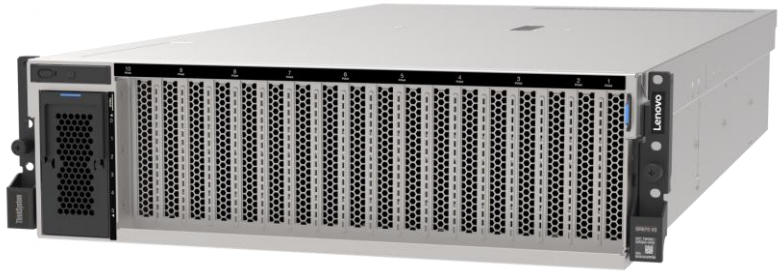
Lenovo ThinkSystem SR675 V3 Rack Server
NVIDIA® H100 NVL GPUs

Software

NVIDIA AI Enterprise
NVIDIA CUDA Toolkit
Red Hat Enterprise Linux AI

3 The solution

As well as delivering the powerful computational capabilities to train the model (known as “AISHA MRI”) in time for the January 1st launch date, the Lenovo platform will support continuous re-training and higher data volumes as the solution is introduced to more hospitals.



Lenovo ThinkSystem SR675 V3 configured to support eight double-wide GPUs

3 The solution

Expert support

AISHA engaged Lenovo to deploy and configure the solution, which is hosted in Hospitales Ángeles Health System's primary data center. With the organization's mission-critical systems running there, including core hospital applications, there was zero tolerance for downtime.

The Lenovo team conducted a thorough analysis of the existing architecture to determine the best way to deploy the new server without putting the hospital network at risk. "The deployment was perfect," recalls Dr Juan Pablo Reyes Gonzalez. "As soon as we were told 'it's up and running', we have been able to use the server without any further adjustments."

“Our team has several engineers who specialize in AI and who had highly recommended NVIDIA H100 NVL GPUs. But this deployment wasn’t just about having the most powerful GPUs—**the synergy between the Lenovo and NVIDIA hardware and software is what enables us to get the most out of the GPUs**, while maintaining consistency and security.”

Dr Juan Pablo Reyes Gonzalez

Head of AISHA

4 The results

Using the Lenovo ThinkSystem SR675 V3 server, AISHA developed and trained an initial AI model in less than a year. Today, the AISHA MRI AI model can complete a full-body volumetric analysis in just 30 minutes—over 99% faster than manual analysis— providing doctors with rapid insight into the health of their patients.

At the same time, the AISHA team can continually re-train the model with new data as it rolls out the AISHA MRI solution to each new hospital in the group. The ultimate goal is to offer the solution to hospitals across the world in the future.

- AI model developed and trained in <11 months
- Over 99% faster analysis compared to manual methods
- Enhanced patient assessments through AI-driven insights in medical check-ups

4 The results

Exploring the future of diagnosis

The AISHA MRI solution also allows patients to receive check-up results in an innovative manner. Using VR headsets, patients can view a 3D image of their body as the doctor explains the results, empowering them to make more informed decisions about their health.

AISHA MRI is the first solution of its kind in the world, but the AISHA team has no plans to stop there. “We started with MRI for check-ups because it is a non-invasive way to evaluate the body,” notes Dr Juan Pablo Reyes Gonzalez. “But now that we have seen the capabilities of the Lenovo and NVIDIA technology, we have started experimenting with models for analyzing other forms of medical imaging. Our vision is to empower doctors with AI-driven insights, fostering a future where medical decisions are more informed and patient outcomes are optimized.”

“To launch the AISHA MRI AI solution, we needed to process so much complex data that, without the power of the Lenovo and NVIDIA solution, the model would simply not be able to exist. **Lenovo and NVIDIA are unmatched in the field of AI**.”

Dr Juan Pablo Reyes Gonzalez

Head of AISHA

Why Lenovo?

To determine the best AI training platform, AISHA conducted proof-of-concept studies with multiple vendors. The Lenovo ThinkSystem SR675 V3 server, powered by NVIDIA H100 NVL GPUs, came top in terms of price-performance, the speed at which it could deliver a fully trained model, and because of the partnership offered by Lenovo.

“With other partners, there was a lack of understanding about what we wanted to use the model for,” says Dr Juan Pablo Reyes Gonzalez. “Lenovo, however, not only took the time to understand our needs, but had the expertise to advise us on what hardware would best meet those needs.”

How can hospitals employ AI to provide innovative services for patients?

With Lenovo and NVIDIA, AISHA built an AI model that optimizes MRI analysis, improving the speed and precision of health check-ups.

Explore Lenovo AI Solutions