Healthcare | Canada

Improving outcomes with real-time monitoring

ElephasCare

To empower caregivers to identify and respond fast to at-risk patients, ElephasCare worked with the Lenovo AI Discover Center of Excellence to optimize its AI-powered patient monitoring solution for deployment on Lenovo ThinkEdge SE455 V3 servers.

1 Customer background

Who is ElephasCare?

Founded in 2019 and based in Waterloo, Ontario, ElephasCare is a Canadian startup striving to help healthcare facilities provide patients with the attentive, high-quality care they deserve while protecting their privacy and preserving their dignity.

The company's mission is two-fold: to improve patient outcomes, and to create a more efficient, effective, and rewarding environment for the health teams who provide that care.

ElephasCare™

2 The challenge

Chris Lehman, President and COO of ElephasCare, takes up the story: “In hospitals and in eldercare facilities, early intervention is a proven way to improve outcomes. For example, subtle changes to a resident’s level of activity and bathroom habits might be early signs of a urinary tract infection, which could eventually lead to delirium and an increased risk of falls. However, there is a global staffing crisis in healthcare, leading to poorer outcomes, increased costs, and declining quality of care, which makes noticing early warning signs extremely difficult.”

ElephasCare saw a chance to solve this challenge by bringing real-time, AI-powered monitoring to healthcare and eldercare settings—alerting care professionals to potential risks in real time via a mobile app.

2 The challenge

Building an innovative solution

Created by technology and risk management professionals, ElephasCare AI is an innovative solution to the long-term challenges facing the eldercare sector.

“Unlike traditional monitoring technologies that rely on wearables or video cameras and machine vision, our solution is based on radar telemetry,” continues Lehman. “Because they do not capture any images, our sensors can track patients in all areas of the care facility, free from privacy, security, or compliance concerns associated with camera-based monitoring.”

2 The challenge

As it moved forward with the research and development process, ElephasCare set out key requirements for the new solution. “We wanted to make our sensors as lightweight, cost-effective, and scalable as possible, and remove networking limitations by performing our AI processing at the edge,” comments Lehman. “We looked for mature technology partners to help us on our journey.”

“We began our partnership with Lenovo during the prototyping stage, and **we’ve never looked back**. Lenovo offered us the combination of **industry-leading expertise in AI** to refine our code and **powerful edge computing solutions** to bring our vision for ElephasCare AI to life.”

Chris Lehman

President and COO, ElephasCare

3 The solution

Deploying AI at the edge

Working with the Lenovo AI Discover Center of Excellence (CoE), ElephasCare has optimized its innovative AI solution to run on Lenovo ThinkEdge SE455 V3 servers—compact solutions that offer high performance for AI workloads at the edge.

“Lenovo offered us a total cost of ownership [TCO] that was around 10% lower than other vendors we considered, but for us the main decision point was the responsiveness and dedication of the Lenovo team,” says Lehman.

Services
Lenovo AI Discover Center of Excellence

Hardware
Lenovo ThinkEdge SE455 V3 Server

3 The solution

Partnering with AI experts

During the solution evaluation process and beyond, Lenovo listened closely to ElephasCare's technology objectives and long-term business goals. "Lenovo is a wonderful partner," comments Lehman. "As well as providing us with the cost-effective hardware we needed to prove the ElephasCare concept, Lenovo connected us with experts from the Lenovo AI CoE to help us enhance our solution."

Working closely with ElephasCare, AI experts from Lenovo ran a line-by-line analysis and optimization exercise for the company's entire codebase, identifying and removing redundant code and uncovering opportunities to boost performance by using machine learning libraries and multithreading. Lehman adds: "The Lenovo AI CoE team helped us create a lean, cost-effective, and production-ready AI solution."

“Lenovo's AI CoE is where **data scientists**, **AI architects**, and **system administrators** collaborate to create **cutting-edge AI solutions** that make a **real-world impact**. From enhancing and advancing self-driving technology to contributing to island conservation, biology, and agriculture, we apply AI across a diverse range of industries. Our code review consulting, along with our Responsible AI Committee, helps us deliver **high-quality**, **secure**, and **ethical AI implementations**.”

Sachin Gopal Wani

AI Data Scientist, Lenovo

4 The results

Based on the early results from its first customer deployment, ElephasCare predicts that its AI monitoring solution will help healthcare facilities reduce falls, pressure ulcers, and emergency room visits by 50% or more.

“ElephasCare AI has immense potential to help improve patient experiences and outcomes at eldercare facilities,” says Lehman. “The monitoring capabilities we offer can also have a big impact in other care settings, and we’re looking forward to bringing the benefits of AI insights to more organizations around the world.”

- High performance for AI at the edge
- 10% lower TCO compared to other edge servers
- Up to 50% improvement in patient outcomes

“We recently completed our first proof-of-concept deployment of ElephasCare AI at an eldercare facility in Canada, and the project was a **great success**. Lenovo ThinkEdge SE455 V3 servers are **very simple to deploy**, which means we can **get new customers up and running very quickly**.”

Chris Lehman

President and COO, ElephasCare

4 The results

Scaling up in the cloud

Currently, ElephasCare runs the alerting system for ElephasCare AI on an on-premises server. In the next phase of its product development process, the company will work with Lenovo to deploy a private cloud environment to support the rollout of ElephasCare AI to new customers around the world. Hosted in a co-location data center, the new environment will also be based on Lenovo ThinkEdge SE455 V3 servers.

“After processing data at the edge with AI, we transfer monitoring events to the cloud,” explains Lehman. “In the cloud, we analyze these events and use automated workflows to determine when to trigger real-time notifications. For example, if we detect a non-ambulatory long-term care resident is trying to exit their bed, we can signal caregivers to attend—helping them to intervene before a fall occurs.”

> **“With Lenovo, we can equip healthcare facilities with valuable patient health insights and real-time alerting—helping them to improve outcomes for vulnerable residents.”**

Chris Lehman

President and COO, ElephasCare

Why Lenovo?

ElephasCare chose Lenovo for its robust, cost-effective technology, strong services, and deep AI expertise.

“While most of the vendors we evaluated just focused on the feeds and speeds of their servers, Lenovo focused on us: our vision, our solution, and our long-term business goals,” recalls Lehman. “With Lenovo, every engagement feels like a real, coordinated effort. Whenever we needed guidance, Lenovo provided resources with domain-specific knowledge to help us.”

How can startups enable AI at the edge?

Working with the Lenovo AI CoE, ElephasCare optimized its innovative patient monitoring solution for deployment on Lenovo ThinkEdge SE455 V3 servers.

Explore Lenovo AI Solutions