COMINO

CASE STUDY

Breaking the Cloud Bottleneck: Neurosalience's Race to Detect Dementia Before It's Too Late

Neurosalience

CLIENT

INDUSTRY
Medical AI / Health Tech

FOUNDED
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HEADQUARTER
Tallin, Estonia

Neurosalience develops a tool for early dementia detection from MRI scans. The product can process low-resolution MRI data, including from older scanners. This is possible as the tool is based on novel machine learning algorithms to analyse all brain regions. The tool detects subjects with dementia, identifies the brain regions most affected by ageing, and outputs the stage and type of dementia.

CHALLENGE

Existing solutions from AWS and similar companies were unsuitable for this use case due to the enormous costs the Neurosalience would have incurred if it had decided to use cloud data storage and processing power. Using the firm's "scientific" computer was significantly slowing the team down, as they had to wait weeks to retrain the models for a simple adjustment. After months of searching, an AWS manager advised acquiring a dedicated server, noting that MRI model training is too niche for a commercial cloud product.

The requirements included:

- affordable alternative to cloud compute for large-scale MRI model training
- fast iteration - days, not weeks - to refine ML algorithms
- local storage for a dataset spanning tens of terabytes and growing
- reliable, sustained GPU performance with minimal operational overhead

SOLUTION

Neurosalience deployed a dedicated Comino server infrastructure, bringing compute fully on-premises. The system provides high-density GPU performance in a compact, rack-mountable chassis with closed-loop cooling and sustained full-load performance.

Configuration delivered:

- High-density GPU compute in a compact, rack-mountable chassis
- Full local data sovereignty - no cloud latency or egress costs
- Sustained full-load GPU performance without throttling
- Near real-time model training, testing, and iteration

According to the Neurosalience team: *"With the new server infrastructure in place, what once took weeks now takes hours. We can train, test, and iterate on our models in near real time."*

DEPLOYMENT

The server was deployed on-premises at Neurosalience's facility. Its closed-loop cooling and rack-friendly design enabled quick integration without specialised infrastructure changes, keeping all MRI data securely local.

RESULTS

Comino deployment has dramatically improved Neurosalience's ability to explore new ideas, refine its algorithms, and respond quickly to insights from the facility's growing MRI database.

"The server has allowed us to keep all our data local, which means we're no longer constrained by the costs and latency of cloud solutions. This is particularly critical for us, as our dataset spans tens of terabytes." - Neurosalience Team.