

Case Study

Using AI to Improve Animal Diagnostics with Zomedica

What We Did

See how we helped Zomedica to design a machine learning workflow, and an efficient and scalable infrastructure, to create an AI-based blood test diagnostic tool for veterinarians and veterinary hospitals.

DIGITAL PRODUCT DEVELOPMENT

cloud

software development

How We Did It

Faster diagnostics

Upgrading the cloud environment has significantly improved processing time, so that veterinary customers can diagnose issues more quickly and begin life-saving treatments faster.

Improved efficiency

Initial blood review can be completed by the AI assistant before human review of results: creating a streamlined process and reserving human effort for higher-level functions.

Increased accuracy

Having two levels of review (one AI, and one human) means that more indicators can be identified at early stages, improving treatment and hopefully, saving lives.

About Zomedica

Zomedica is a veterinary service provider on a mission to support veterinary practitioners by delivering cutting-edge technology, products, and services to improve animal health and well-being.

Generative AI: Learn, Build, and Test in a Sandbox Environment

Discover the **potential of generative AI** to transform your business with an immersive engagement focused on strategic applications of **artificial intelligence** to meet your business needs.

[learn more](#)

Challenge

Zomedica had a big idea: to harness the power of artificial intelligence (AI) to improve the speed and accuracy of TRUVIEW, their fully automated digital microscope used by veterinary clients around the world. They needed a partner with the imagination, skills, and experience to bring their vision to life.

Vervint and Zomedica had an existing relationship, having worked together on a user portal for recordkeeping and transparent data sharing across veterinary hospitals and health systems. With that background, Zomedica knew that Vervint, their trusted partner, had the qualities they were looking for to lay the technical groundwork and help to create a new, AI-enabled diagnostic tool for veterinary clients.

We never get the same kind of feedback from other consultants that we get with Vervint. That is the differentiator and why we stay with them.

Brian Lewis

Director of Digital Products, Zomedica

Solution

Fact-finding mission

We began with a Machine Learning Operations (MLOps) **assessment and architecture** plan to develop a deep understanding of Zomedica's business objectives and machine learning goals. This included identifying:

- Types of problems to be solved
- Data sources to be used
- Expected outcomes of machine learning (ML) models

Design and decision-making

Once objectives were clarified, the team worked with Zomedica to design an end-to-end MLOps pipeline covering the entire machine learning workflow. This included data preparation, model development, training, validation, deployment, and monitoring.

The team used this to select the best tools, technologies, and cloud services to build an efficient and scalable infrastructure.

Develop and deploy

The MLOps pipeline was designed to be flexible, modular, and scalable, allowing for rapid experimentation and iteration. Critically, it was integrated with Zomedica's existing DevOps processes to ensure a smooth and automated deployment process.

The Vervint team also optimized Zomedica's cloud environment to ensure processing was fast and efficient to support the increased demands of an image-based AI-enhanced application.

Webinar: Embracing Strategy and Governance in Data & AI

Join Vervint's Data and Healthcare Principal and AI Strategy Leader to discuss the critical role of strategy and governance for data and AI.

[learn more](#)

Results

In the end, we delivered two phases of upgrades to TRUVIEW to Zomedica.

Phase 1 of the project, a system upgrade that decreases cloud processing time while increasing the volume of data captured, is currently active and improving the user experience for TRUVIEW clients. Results have surpassed Zomedica's performance targets, processing images up to 20 gigapixels in the new optimized cloud.

Phase 2, which features the integration of TRUVIEW with AI analytics to speed diagnosis timelines and increase accuracy with two levels of review, is in production and testing, and will soon be made available to all TRUVIEW customers.

Upon the full rollout of phase 2, the TRUVIEW blood diagnostic tool, utilizing cloud-side processing, will scan a blood sample more quickly and accurately, completing the first-level review of veterinary blood samples on behalf of the veterinary staff.

The benefits of TRUVIEW are many, improving the speed, efficiency, and accuracy of veterinary diagnostics across all clients.