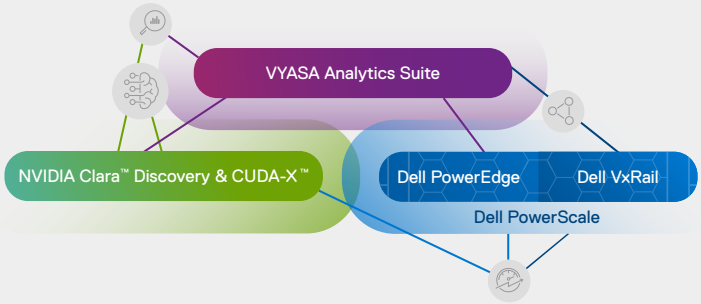
Unify your data & accelerate insights with next-generation deep learning

VYASA AI TECHNOLOGIES FOR BIOMEDICAL ANALYTICS

The volume of data collected and stored by life science and healthcare organizations is text and image-heavy, and often unstructured. As a result, data storage becomes a collection of silos that are difficult to integrate without breaking security and systems infrastructure.

Layar, Vyasa's deep learning data fabric, solves this problem by unifying siloed data sets regardless of storage location or file type. Vyasa then applies deep learning on the unified content, making it easily searchable and accessible without having to move or replicate the data.

Vyasa offers a complete product suite of applications, each designed for specific life science and healthcare data analytics needs. The technology is built on an infrastructure powered by the NVIDIA Clara Discovery application framework and NVIDIA's GPU hardware with Dell PowerEdge Servers or Dell VxRail and Dell PowerScale for flexible, secure storage.



Dell PowerEdge supporting NVIDIA GPUs and Dell PowerScale modern storage for unstructured data

HOW WE HELP LIFE SCIENCE AND HEALTHCARE ORGANIZATIONS

The Layar data fabric securely connects internal and external data sources, then applies automatic deep learning AI algorithms to text and images. This allows you to use Layar to extract insights from the content to enable collaborative data sharing.

CLINICAL TRIAL PROTOCOL ASSESSMENT

The COVID-19 pandemic drove the average price of clinical trials up worldwide indicating that missing insights is not only costly but detrimental to economic stability. Determining clinical trials viability requires complex risk assessment analysis using unstructured data sets within clinical trial protocols, each of which is hundreds of pages, using various formats. As a result, countless hours are wasted manually reading, collecting and organizing data from PDFs, a task that can take weeks or months to complete.

Vyasa Synapse text analytics
Powered by NVIDIA and Dell Technologies, Synapse turns unstructured data intro structured insights by applying deep learning text analytics to clinical trial PDFs.

More than 97% query accuracy[1]
Within milliseconds, AI identifies insights from within unstructured documents by answering questions concerning disease indications, clinical trial designs, site details and subject demographics.

Decrease analysis time by 90%[2]
Instead of 10 days to manually ingest tens of thousands of data points, Vyasa decreases analysis time down to one day.

[1] *Vyasa Analytics development team, internal testing.*
[2] *Vyasa Analytics internal project client results.*

MEDICAL IMAGING DETECTION

By 2040, the global burden is expected to grow to 27.5 million new cancer cases and 16.3 million cancer deaths simply due to the growth and aging of the population.[3] Deep learning has proven necessary and effective to meet this future increase in cases and improve the precision and recall of automated cancer detection.

Vyasa Retina image analytics

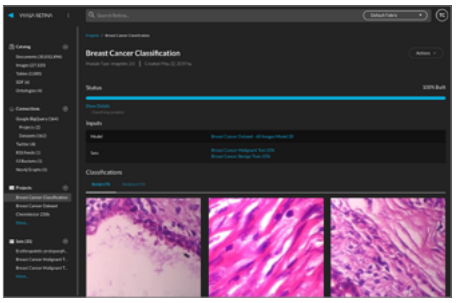
Powered by NVIDIA and Dell Technologies, Retina streamlines imaging workflows across the organization. Retina's analytics are used to enhance image classification and cohort curation, as well as enhance AI model training with enhanced traceability and reproducibility.

More than 90% classification accuracy for tissue diagnostics[4]

The optimized models can help triage cases, so clinicians can prioritize the most suspicious cases.

Reduce manual input by 100x[5]

The ability to reduce manual input from physicians, oncologists and pathologists means improved outcomes and more time to treat patients.



DISEASE DISCOVERY & PATIENT IDENTIFICATION

Mass amounts of unstructured content are rich with insights but increasingly challenging to access, which can impact everything from identifying emerging diseases or researching patient records.

Vyasa Axon "Dynamic Knowledge Graph"

Powered by NVIDIA and Dell Technologies, Axon allows users to ask natural language questions across internal data and Vyasa's Canonical data fabric:

PubMed | Patents | ClinicalTrials.gov

Axon is designed to allow users to explore their data in natural language. Users can build knowledge graphs on the fly to identify relationships and build cohorts in a low code interface.

It's easy to get started. Vyasa is deployed through NVIDIA Clara™ Discovery and uses Dell PowerScale connectors.

Reach out to us today.

VYASA

Vyasa is advancing deep learning AI into approaches that enable humans to elevate the nature of their work beyond rote activities inherent in processing digital content. Using highly scalable deep learning software and analytics, we enable organizations to ask complex questions across large scale integrated data sets to gain critical insights for better decisions.

» **Contact us** at *hello@vyasa.com* to learn more

DELL Technologies

Dell Technologies is helping life sciences and healthcare organizations simplify their administration; coordinate and manage patient care; transition from episodic care to coordinated, advanced personalized care with a focus on prevention and wellness; and ultimately improve population health and individual patient outcomes.

» **Learn more** about our solutions for healthcare

NVIDIA

NVIDIA Clara™ Discovery is a collection of frameworks, applications, and AI models enabling GPU-accelerated drug discovery, with support for research in genomics, proteomics, microscopy, virtual screening, computational chemistry, visualization, clinical imaging, and natural language processing.

» **Learn more** about NVIDIA Clara™ Discovery

[3] *American Cancer Society® Global Cancer Facts & Figures.*
[4] *Vyasa Analytics internal project client results.*
[5] *Vyasa Analytics internal project client results.*

For more technical information on Vyasa's offerings, please visit us at vyasa.com.