NVIDIA

Conquer the complexity of AI with Dell Precision

Start Discovering

intel
CORE
intel XEON

Enabling Accelerated GenAI

As the world's #1 workstation brand, Dell Precision workstations liberate AI developers and data scientists to prototype, develop and fine-tune generative AI models locally, giving them the flexibility to experiment and calibrate their AI workloads without racking up costs.

In this guide you will find a brief introduction to the key persona types benefiting from Precision AI workstations, an explanation of how Dell is perfectly placed to help your organization rapidly deploy your enterprise-wide AI strategy and how we are helping a wide range of verticals take advantage of AI today, including specific use cases and the underlying technology.

75% of large enterprises will use AI
to enhance efficiency and improve quality[1]

[1] 75% IDC, "IDC Futurescape, Worldwide AI and Automation 2023 Predictions", doc #US49748122, October 2022

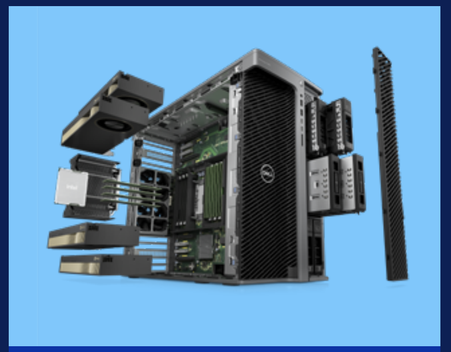
AI at Work

Where Generative AI Sits within Artificial Intelligence

The Dell AI-Ready Workstation

Why Dell for AI?

Your Partner Throughout the AI Lifecycle – Dell Technologies



AI Industry Workflows

AI at Work:

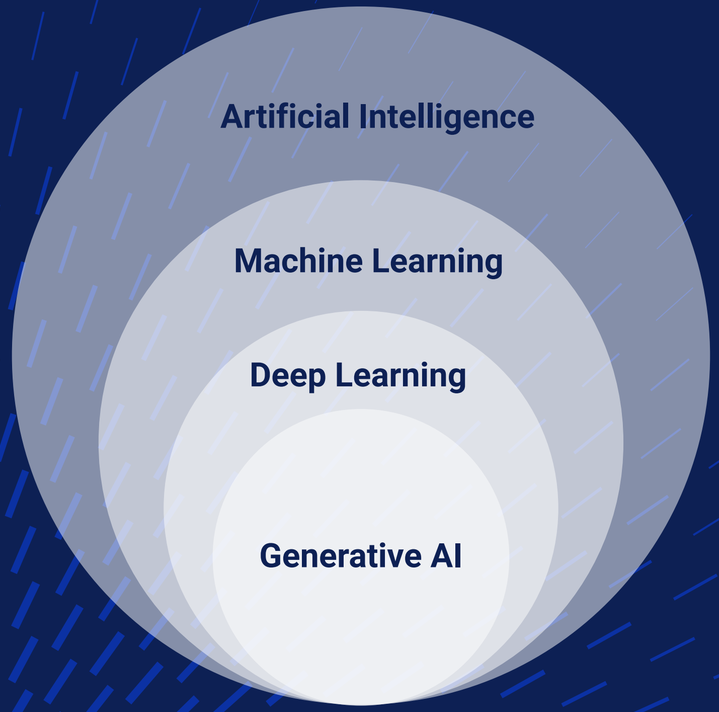
Transforming the workforce and elevating productivity

Where Generative AI sits within AI ›

Integrate AI into everyday business with Gen-AI ready devices and solutions from Dell Technologies.

Accelerate AI and GenAI workloads with scalable Precision AI-ready workstations that unleash data potential and turn them into operational efficiencies.

Where Generative AI Sits within Artificial Intelligence



Artificial Intelligence
Solves a task by making computers to mimic human behavior

Learn → Analyze → Predict

Machine Learning
Trains a machine to solve a specific AI problem

Data → Stats & Math Algorithms → Prediction

Deep Learning
Uses neural networks to solve an AI problem

Data → Neural Networks → Prediction

Generative AI
Learns patterns and trends from the training data using neural networks, understand the context to create new content that mimics human generated content

Training Data (a large dataset) → Neural Networks → Understand Context and Generate New and Unique Content

The Dell AI Workstation ›

The Dell AI-Ready Workstation

Data science workflows have traditionally been slow and cumbersome, making it difficult to prepare and parse data to gain the valuable insights locked within. Dell Precision AI-ready workstations with NVIDIA RTX™ Professional GPUs feature a fully integrated NVIDIA data science software stack that provide the performance required to transform massive amounts of data into insight.

Dell Precision AI-ready workstations provide an easy to deploy data science compute solution that enables enterprises to expand their data science efforts and explore data transforming the way they do business.

Find More Details
on the Dell Precision AI-Ready Workstation Portal ›

Why Dell for AI?

Winning GenAI with Precision Workstations

Simplified: Solve practical machine and deep learning problems with *robust systems out of the box* – simplifying deployment and development on various Gen AI apps.

Tailored: Our Dell Precision AI-Ready workstation *can be designed and configured depending on your Gen AI workload needs* and now has *up to 4 NVIDIA RTX™ 6000 Ada Generation GPUs* in a single workstation.

Trusted: As the *world's #1 workstation brand*, Dell Precision can secure anywhere work with hardware and software defenses for today's data-driven world.

The world's most comprehensive Gen AI infrastructure portfolio – spanning from cloud to client devices all from a single vendor.*

*Based on Dell analysis, August 2023.
Dell Technologies offers solutions engineered to support AI workloads from Workstations PCs (mobile and fixed) to Servers for High-performance Computing, Data Storage, Cloud Native Software-Defined Infrastructure, Networking Switches, Data Protection, HCI and Services.

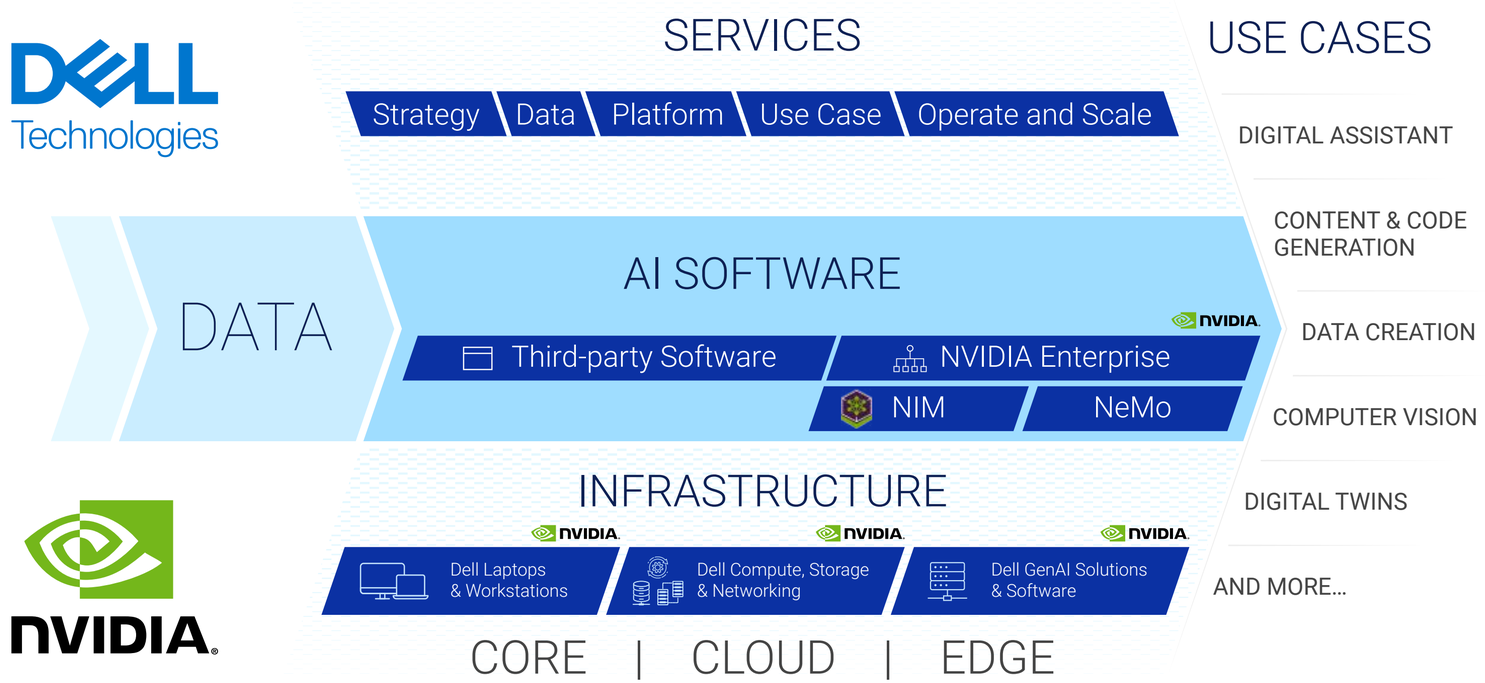
The Dell AI Factory

with NVIDIA is the industry's first end-to-end AI enterprise solution integrating Dell's compute, storage, client device, software, and services capabilities with NVIDIA's advanced AI infrastructure and software suite, all underpinned by a high-speed networking fabric.[1]

1 Based on Dell analysis, March 2024. Dell offers solutions with NVIDIA infrastructure and software engineered to support AI workloads from Workstations PCs to Servers for High-performance Computing, Data Storage, Cloud Native Software-Defined Infrastructure, Networking Switches, Data Protection, HCI and Services.

The Dell AI Factory with NVIDIA

INDUSTRY'S FIRST END-TO-END ENTERPRISE AI SOLUTION



Learn More ›

AI Industry Workflows

Dell Technologies is at the forefront of AI, providing the technology that makes tomorrow possible, today.

We uniquely offer an extensive portfolio of workstation technologies which enable the data analytics solutions and high-performance computation that underpin successful AI, machine and deep learning implementations.

See the most common industry workflows next:

Healthcare & Life Sciences (HCLS)
Find Out More

Business & Financial Services
Find Out More

Security
Find Out More

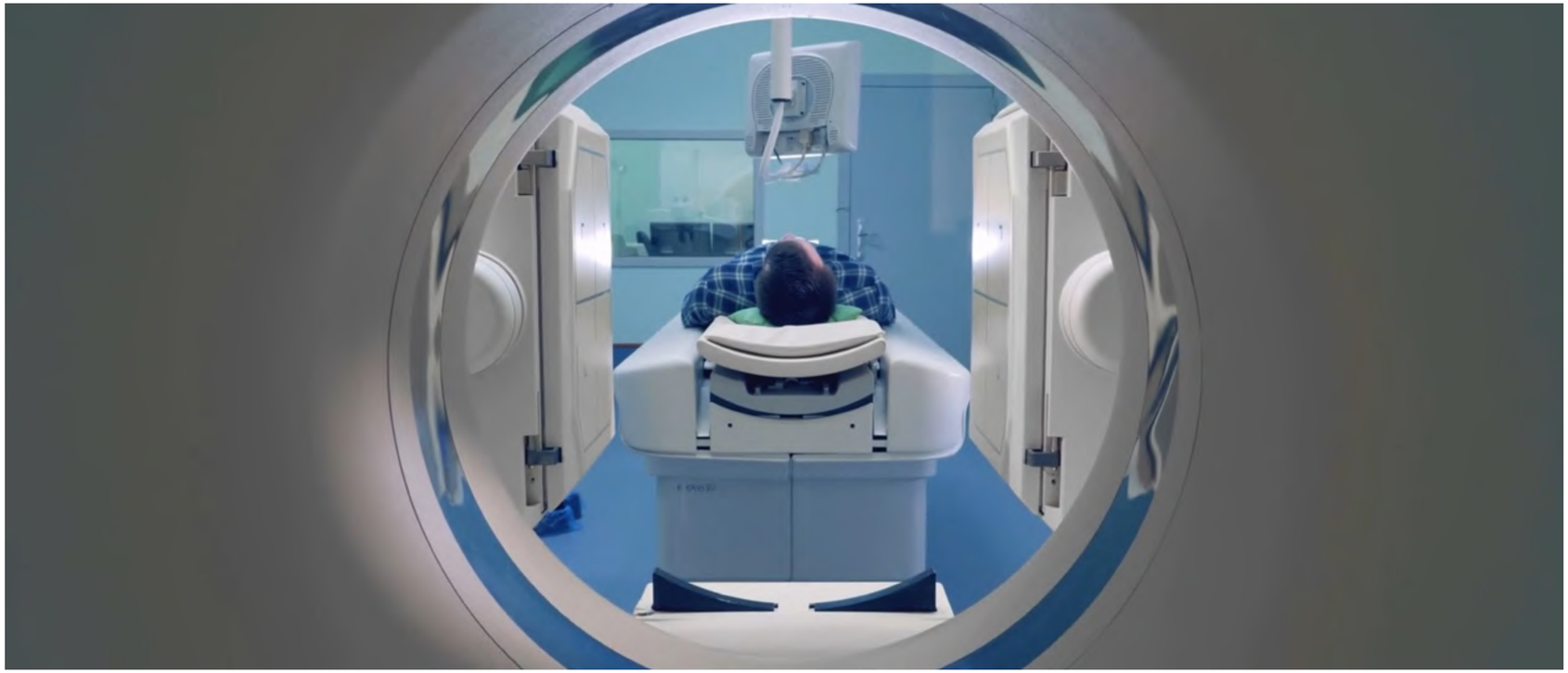
Media & Entertainment
Find Out More

Energy
Find Out More

Manufacturing & Engineering
Find Out More

Healthcare & Life Sciences (HCLS)

Healthcare & Life Sciences (HCLS)



When it comes to our health, artificial intelligence's (AI) potential is huge. Although there are still challenges around fully AI-driven healthcare – most notably a distrust of machines, and fears of mismanaged care due to machine error and lack of human oversight – there is enough potential to make investment in AI-powered tools and solutions desirable for healthcare providers.

On the next page you'll find six AI advances in healthcare, along with the hardware you need to support these workflows.

Find Out More

Healthcare & Life Sciences (HCLS)

DRUG INTERACTION

Researchers have begun to develop deep learning-based solutions that predict drug interactions with a very high level of accuracy. This has the potential to help patients avoid the unexpected effects of mixing drugs with other drugs or food.

CANCER DETECTION

AI is currently used to detect various types of cancer. In many cases, the detection capability is as accurate as skilled clinicians, sometimes more so. Examples include skin cancer, prostate cancer, colorectal cancer and breast cancer.

CHRONIC ILLNESS PREDICTION

AI can empower physicians to make quick, statistically-grounded clinical decisions, allowing for better diagnosis and treatment. Examples include macular degeneration, chronic kidney disease, depression, COPD and congestive heart failure.

DRUG DISCOVERY

Pharmaceutical companies across the world are investing in AI to learn from complex data sets. It helps scientists design and test potential new drugs more quickly and cost-effectively than ever before.

GENE MUTATION/ SEQUENCING

In DNA and genetics, AI's impact could be felt for generations. It can help pinpoint how specific mutations disrupt the way genes behave throughout the body, identify the mutations a person inherits from their parents, and much more.

SANITATION

Hospital-acquired infections are a common problem. Using AI technologies in the form of machine learning (ML) and IoT, hospitals have the ability to track usage of hand sanitizers outside patient rooms to better protection against infection.

Challenges:

1 Building trust among patients and maintaining compliance with regulations and data governance.

2 HCLS data sets can be large and model-building and can take days to weeks on even the largest computing clusters.

Overcome these challenges with Dell's solutions below:

AI Development

Fixed

- Entry-Level — Find Out More
- Standard — Find Out More
- Advanced — Find Out More
- Ultimate — Find Out More

Mobile

- Standard — Find Out More
- Advanced — Find Out More
- Ultimate — Find Out More

Remote

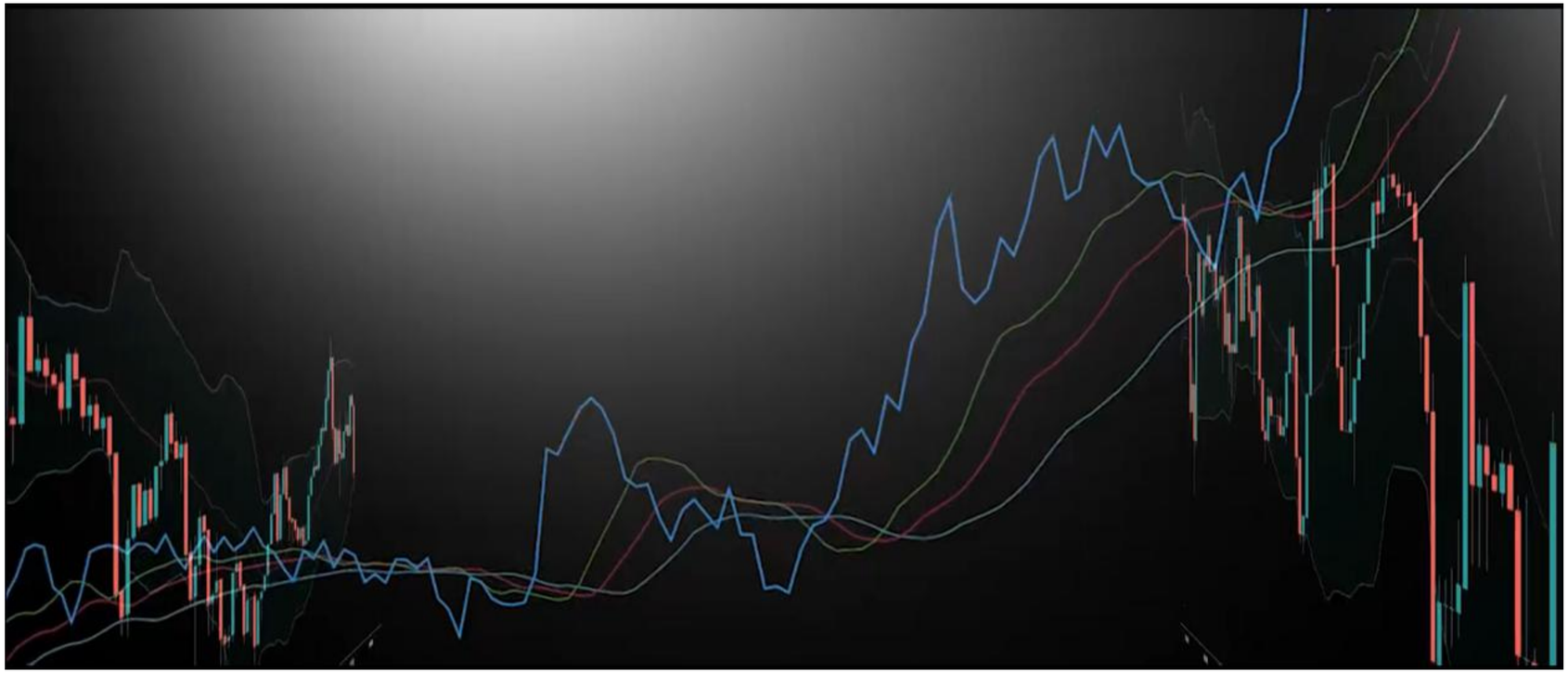
- Rack — Find Out More

AI Deployment

Find Out More

Business & Financial Services

Business & Financial Services



The financial services sector is one of the earliest adopters of artificial intelligence (AI), and is often known as FinTech. As early as the 1980s, AI was used to help inform investment decisions and reduce the size and scope of fraudulent transactions. Now, AI is also used to process massive amounts of consumer information to cut costs and monitor behavior patterns for improved customer experience.

On the next page you'll find five AI advances in FinTech, along with the hardware you need to support these workflows.

Find Out More

Business & Financial Sciences

FRAUD PREVENTION

Preventing and combating fraud has long been a major issue for the financial services. And, as global transactions increase, so does the risk of fraud. AI can help detect fraudulent activity and significantly help with its reduction.

RISK MANAGEMENT

AI has a huge impact on identifying and managing risk. It also opens the door for financial institutions to expand their lending into regions without credit scoring, such as China, without a significant increase in credit risk.

TRADING & INVESTMENT PREDICTIONS

AI can synthesize vast volumes of data for better trend detection and pattern recognition. It allows investors, portfolio managers and sovereign wealth funds (SWFs) to better estimate future prices and improve their market position.

CUSTOMER SERVICE

Chatbots and intelligent resolution agents are leading the AI customer service charge. Global banking executives believe AI will enhance their customer service operations through the use of technologies including virtual customer assistants.

SALES FORECASTING

AI-powered sales forecasting software gathers data about past deals, both won and lost. By utilizing information from emails, meetings, and even phone calls, intelligent forecasting can drive efficiencies and better predict sales outcomes.

Challenges:

1 Privacy concerns with customer information.

2 Ability to quickly identify and adjust to changes in the underlying financial environment.

3 Keeping up with regulations and governances.

Overcome these challenges with Dell's solutions below:

AI Development

Fixed

Entry-Level	Standard	Advanced	Ultimate
Find Out More	Find Out More	Find Out More	Find Out More

Mobile

Standard	Advanced	Ultimate
Find Out More	Find Out More	Find Out More

Remote

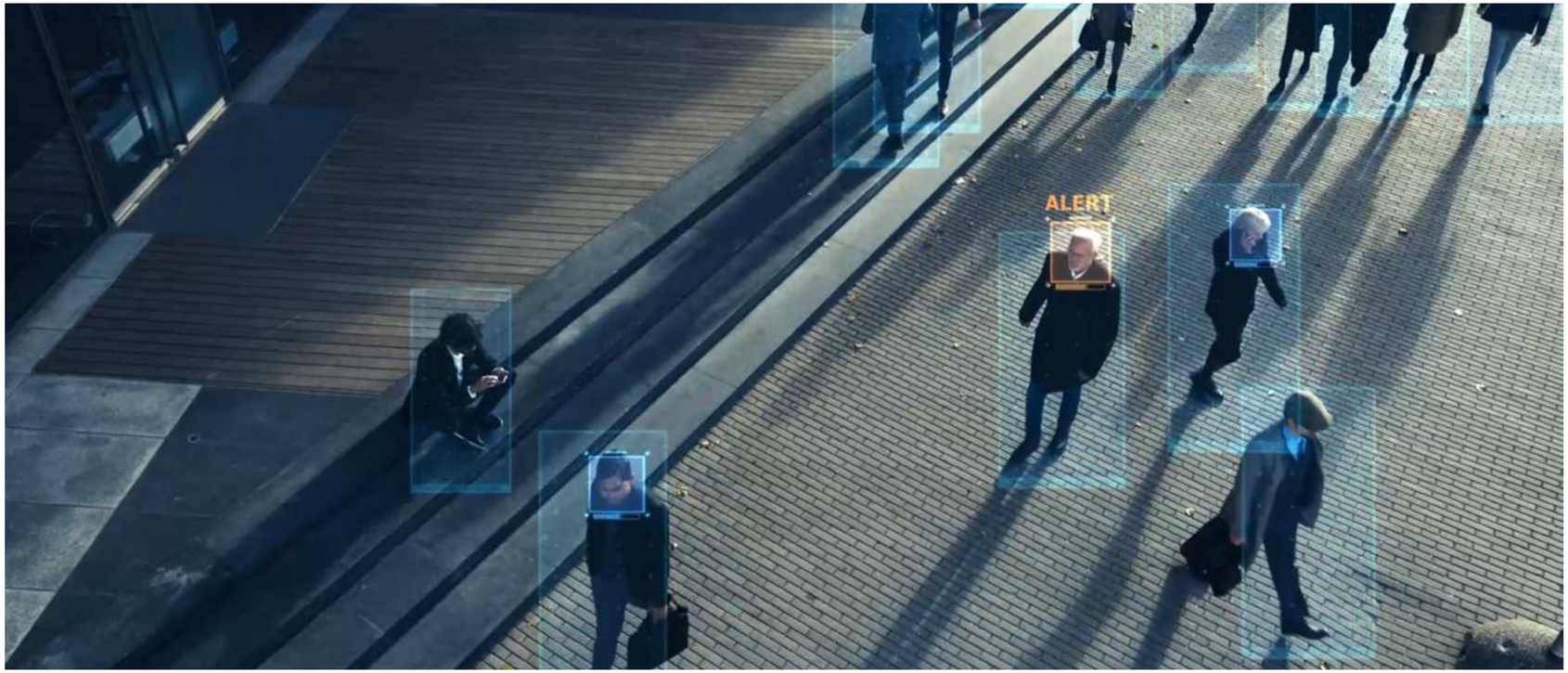
Rack
Find Out More

AI Deployment

Find Out More

Security

Security



While the percentage of IT budgets spent on security continues to grow, the cost of security breaches is growing even faster. Artificial intelligence (AI) and machine learning (ML) can offer IT security professionals a way to enforce good cybersecurity practices and shrink the attack surface instead of constantly chasing after malicious activity.

On the next page you'll find four AI advances in security, along with the hardware you need to support these workflows.

Find Out More

Security

FACIAL RECOGNITION

Preventing and combating fraud has long been a major issue for the financial services. And, as global transactions increase, so does the risk of fraud. AI can help detect fraudulent activity and significantly help with its reduction.

CYBER SECURITY

AI has a huge impact on identifying and managing risk. It also opens the door for financial institutions to expand their lending into regions without credit scoring, such as China, without a significant increase in credit risk.

SATELLITE IMAGERY

AI can synthesize vast volumes of data for better trend detection and pattern recognition. It allows investors, portfolio managers and sovereign wealth funds (SWFs) to better estimate future prices and improve their market position.

CRIME PREVENTION

Chatbots and intelligent resolution agents are leading the AI customer service charge. Global banking executives believe AI will enhance their customer service operations through the use of technologies including virtual customer assistants.

Challenges:

Traceability and trust are huge requirements in security solutions. Utilizing high-performing, black-box AI solutions may present a challenge when traceability and trust become high priorities.

Overcome these challenges with Dell's solutions below:

AI Development

Fixed

Entry-Level	Standard	Advanced	Ultimate
Find Out More	Find Out More	Find Out More	Find Out More

Mobile

Standard	Advanced	Ultimate
Find Out More	Find Out More	Find Out More

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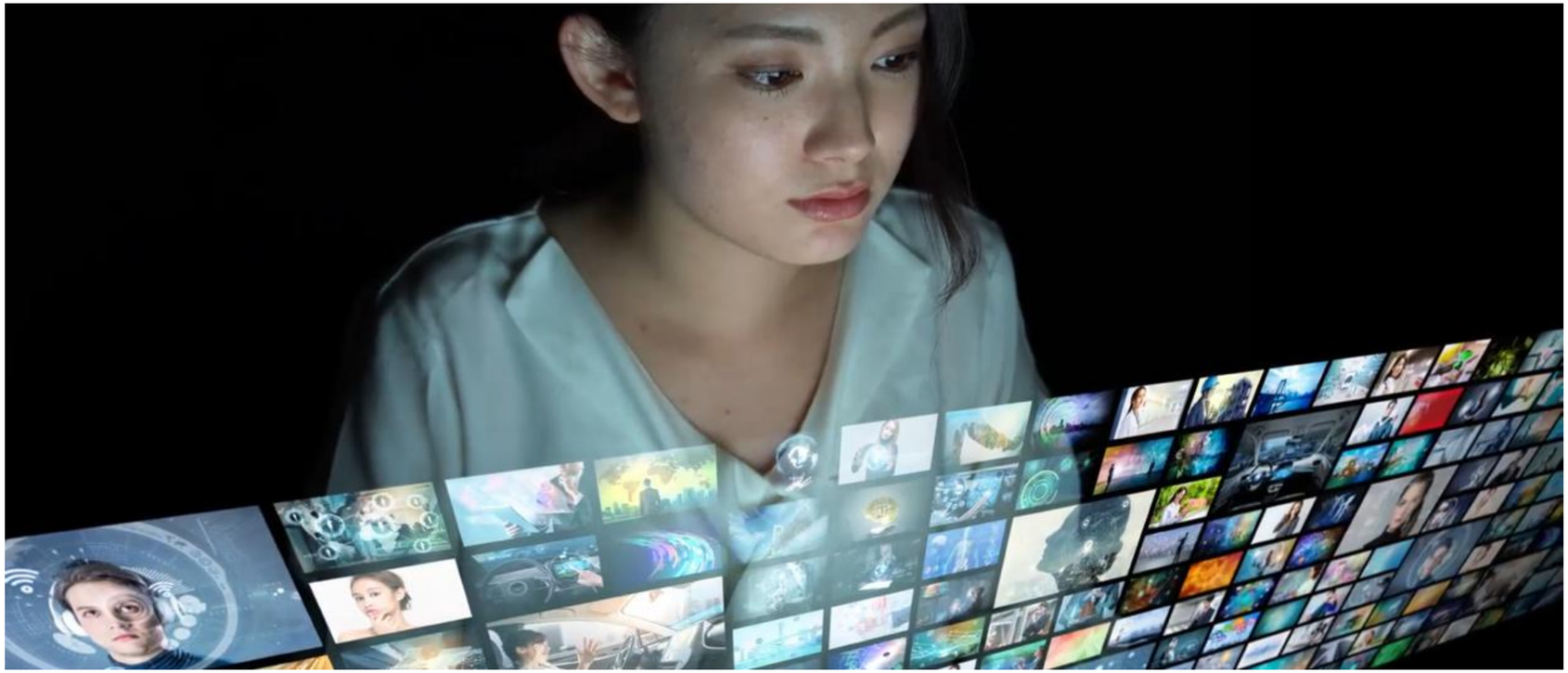
Rack
Find Out More

AI Deployment

Find Out More

Media & Entertainment

Media & Entertainment



The media and entertainment (M&E) industry delivers films, tv shows, advertisements and more across a wide variety of devices. With trillions of dollars in revenue at stake, many companies are looking to gain an advantage by turning to AI to boost business in workflows from filming and visual design, right through to post production.

On the next page you'll find four AI advances in M&E, along with the hardware you need to support these workflows.

Find Out More

Media & Entertainment

VIDEO CAPTIONING/ TRANSLATION

The rise of video content has increased the need for automated, accurate closed captioning through AI and machine learning. Similarly, AI's ability to translate languages with human-like precision, such as from English to French, presents significant opportunities for the media and entertainment industry.

CONTENT-BASED SEARCH

There is so much media on the internet that it is becoming increasingly difficult for people to find exactly what they want online. AI is optimizing search results by automatically identifying and cataloging the content of video streams, accelerating the media production process.

CONTENT SUGGESTIONS

M&E companies are using AI to create personalized services for billions of their customers. Examples include recommending content while browsing a video site or shopping online, and optimizing video definition and fluency for users with different internet speeds and bandwidths.

CONTENT CREATION

AI plays a transformative role in the media industry, enhancing content creation across various formats. It enables automated text generation, image and video editing, and even 3D modeling. These advancements not only increase efficiency but also open-up new avenues for creativity and innovation.

Challenges:

1 Applying AI solutions to large databases of image and video content are time consuming and resource intensive.

2 New state-of-the-art techniques are being reported on a regular basis which means applied solutions may need to be regularly evaluated and updated.

Overcome these challenges with Dell's solutions below:

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Entry-Level	Standard	Advanced	Ultimate
Find Out More	Find Out More	Find Out More	Find Out More

Mobile

Standard	Advanced	Ultimate
Find Out More	Find Out More	Find Out More

Remote

Rack
Find Out More

AI Deployment

Find Out More

Energy

Energy

The global energy industry is facing fundamental shifts in the way it generates, sells, and distributes power. As carbon emissions are cut, methods must be found to manage the increasing gigawatts of unpredictable, weather-dependent renewable energy flowing onto power grids. Artificial intelligence (AI) is increasingly being used to analyze wind patterns, deduce the most beneficial way to maximize energy production, while deep learning is making great strides in energy efficiency.

On the next page you'll find four AI advances in energy, along with the hardware you need to support these workflows.

Find Out More

Energy

UTILITIES

AI is increasingly automating operations in the utilities industries and boosting efficiencies across the sector. With recent wind- and solar-generation plant construction, sensor technologies have become an installation priority and unlock AI technologies which support resource forecasting, along with control and predictive maintenance.

CONSUMPTION DEMAND PREDICTION

Energy forecasting companies already incorporate AI into their prediction models. By taking the latest developments in statistical machine learning and deep learning, these companies are creating advanced neural network models that work in harmony with traditional approaches. These hybrid models outperform classic forecasting methods.

OIL & GAS PRODUCTION OPTIMIZATION

Energy companies are continuously looking to optimize production. One emerging method incorporates machine learning to process past-production data, then refine it to help build improved estimation and prediction models. By analyzing the overall production system companies can mitigate hazards while improving operational efficiency.

AUTONOMOUS MINING

Modernize operations with driverless trucks, conductor-less trains and mines run by cell phone networks. These autonomous technologies are changing the way the mining industry operates by taking miners out of mines and out of danger, all while improving efficiency.

Challenges:

1. Privacy concerns with customer information.
2. Ability to quickly identify and adjust to changes in the underlying financial environment.
3. Keeping up with regulations and governances.

Overcome these challenges with Dell's solutions below:

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Remote

- Rack — Find Out More

AI Deployment

Find Out More

Manufacturing and Engineering

Manufacturing and Engineering

AI’s impact on the manufacturing and engineering industry is profound. Advanced machine learning algorithms enable rapid design iterations, prototype optimization, and predictive insights, reducing time-to-market. Spanning across product, building and infrastructure design, AI enhances simulations, optimizes planning, and project management, leading to cost savings and improved outcomes. This integration empowers companies to stay competitive, unlocking new levels of productivity and innovation in the dynamic global marketplace. AI’s transformative capabilities are a crucial asset in shaping the future of these industries.

Find Out More

Manufacturing and Engineering

EARLY DESIGN EXPLORATION

AI is a powerful tool for designers early on, enabling iterative design exploration and better planning before too many decisions are made. By using AI, deep insights can be garnered while the cost of change is still low.

DESIGN DEVELOPMENT

Designers can leverage Generative AI to quickly move through some of the more tedious tasks as design details are examined. Additionally, AI-enabled Neural Radiance Fields help transmit real-world geometry into a digital form.

PROJECT EXECUTION

As the design becomes real, AI can help project managers streamline planning and allowing vast amounts of data to be leveraged in their decision making process.

LIFECYCLE OPTIMIZATION

Predictive maintenance and resource planning are areas where AI can positively impact productivity and profitability for end users and facility managers during the lifecycle of the product or project.

Challenges:

1 Being prepared to leverage AI insights in your design workflow.

2 Training AI models using unique design parameters to protect intellectual property.

3 Implementing AI tools securely.

Overcome these challenges with Dell's solutions below:

AI Development

Fixed

Entry-Level	Standard	Advanced	Ultimate
Find Out More	Find Out More	Find Out More	Find Out More

Mobile

Standard	Advanced	Ultimate
Find Out More	Find Out More	Find Out More

Remote

Rack
Find Out More

AI Deployment

Find Out More

Precision 3680 – Entry-Level Developer & Data Science AI Workstation

Introducing the Dell Precision 3680 Tower Workstation:

Your indispensable companion for Entry-Level AI Developers and Data Science Professionals. Here's why you won't want to live without it:

Unstoppable Performance: Tear through workloads with newfound speed. Our processors operate at mind-boggling power levels, achieving turbo frequency whenever your workload demands it (available for 125W CPUs only). Say goodbye to bottlenecks and hello to seamless productivity.

Graphics Excellence: Experience best-in-class visuals. Configure up to 450W professional graphics from industry leaders NVIDIA or AMD. Whether you're rendering complex models or analyzing data visualizations, our graphics options ensure you're ready for any challenge.

Scalability at Your Fingertips: Your storage needs, met. With up to 28TB of storage, you can configure your system with 3x on-board M.2 SSDs and 3x SATA hard drives. Need memory? The Dell Precision 3680 Tower boasts up to 128GB of DDR5 memory, ensuring smooth multitasking and lightning-fast data processing.

The Dell Precision 3680 Tower is more than a workstation—it's your secret weapon for conquering complex tasks, crunching data, and bringing your AI and data science projects to life. Don't settle for less.

* Based on internal study of competitors and Dell workstations products, January 2024

The NVIDIA RTX™ 6000 Ada graphics cards are reinventing the workstation to meet the demands of your AI workflows. It's powered by NVIDIA RTX™, delivering the extreme memory capacity, scalability, and performance that data scientists and deep learning researchers need to train the most complex of deep learning models.

View Infographic

View Accessories

View Spec Sheet

View Use Cases

AI READY

NVIDIA RTX

intel CORE i9

Accessories

Dell UltraSharp 27 4K USB-C Hub Monitor | U2723QE
Be your most productive on a 27 inch monitor with brilliant color and contrast that features the industry's first IPS Black technology and a connectivity hub.

Dell Premier Rechargeable Mouse | MS900
This premium mouse was designed with a surreal level of detail to be extremely comfortable and easy to use thanks to its sculpted curves, innovative scroll wheel and powerful battery.

Dell Premier Collaboration Keyboard | KB900
World's 1st collaboration keyboard with dedicated Zoom touch controls for effortless one-touch controls on Zoom calls.

Precision 5860 Tower – Standard Developer & Data Science AI Workstation

The Dell Precision 5860 Tower

is a powerhouse designed for seasoned AI Developers and Data Science Professionals. With up to 24 Cores and a 225W Intel® Xeon® Processor, it tackles complex language learning models and massive datasets with lightning-fast efficiency.

Graphics Excellence: Configure up to two AMD or NVIDIA 300W graphics cards for unparalleled visual performance. Whether rendering intricate visualizations or fine-tuning neural networks, this workstation exceeds expectations.

Storage Mastery: Enjoy up to 56TB of storage with flexibility: two internal M.2 NVMe drives, two internal SATA or SAS drives, and two Front Flexbay storage drives. Your data, your way.

Scalable Memory: Handle memory-intensive tasks effortlessly with up to 2TB of 4800MHz DDR5 memory. Multitask seamlessly and analyze large datasets without bottlenecks.

Cool and Quiet: Advanced thermals keep your system running smoothly during extended work sessions. No more overheating worries.

Recommended configuration.
For the DBA, developer, or analyst who is exploring the notion of incorporating machine learning or deep learning into the work that they do – either by inferencing in parallel, of very light training.

- CPU: Intel® Xeon® W5-2445 (26.25 MB cache, 10 cores, 20 threads, 3.1 GHz to 4.6 GHz Turbo, 175 W)
- Memory: 192GB
- GPU: NVIDIA RTX™ 6000 Ada Generation
- Storage: 1 TB, M.2, PCIe NVMe, SSD, Class 40
- Network: 1Gb integrated (10Gb Optional)
- OS: Ubuntu Linux 22.04
- Support: 3 Years ProSupport with Next Business Day Onsite Service

The NVIDIA RTX™ 6000 Ada Generation graphics cards are reinventing the workstation to meet the demands of your AI workflows. It's powered by NVIDIA RTX™, delivering the extreme memory capacity, scalability, and performance that data scientists and deep learning researchers need to train the most complex of deep learning models.

View Accessories

View Spec Sheet

View Use Cases

Developer & Data Science AI Workstation

Accessories

Dell UltraSharp 32 HDR PremierColor Monitor | UP3221Q
Create phenomenal 4K HDR content on the world's first professional monitor with 2K mini-LED direct backlit dimming zones.*

Dell Premier Multi-Device Wireless Keyboard and Mouse | KM7321W

Experience superior multitasking features with a stylish and comfortable premium keyboard and mouse combo. Complete your tasks powered by one of the industry's leading battery lives at up to 36 months*.

Dell Pro Wireless Headset | WL5022

Enjoy wireless freedom away from your PC with this Teams certified headset that offers convenient call controls. Switch seamlessly across your PC, tablet or smartphone and enjoy superior audio clarity on the go.

Dell UltraSharp Webcam | WB7022 - 4K UHD

Experience best image quality in its class with the world's most intelligent 4K webcam.

Precision 7875 Tower – Advanced Developer & Data Science AI Workstation

Tear through AI workloads

Compute Powerhouse: The Dell Precision 7875 Tower is tailor-made for the most demanding AI/ML training tasks. With massive compute, storage, and memory, you'll scale performance to meet your highest requirements. Record speeds? Absolutely. Fit more iterations within your project timelines? You got it.

Multi-Threaded Mastery: Tear through your work effortlessly. Thanks to the AMD Ryzen™ Threadripper™ PRO, your multi-threaded applications will perform at their peak. Say goodbye to bottlenecks and hello to productivity.

Graphics Excellence: Get more done within your project schedule. Configure up to two 300W graphic cards—the best in the business. Whether you're visualizing complex data or training neural networks, our professional AMD and NVIDIA options have you covered.

Storage and Memory Bliss: Need space? Enjoy up to 56TB of storage. Store your models, datasets, and projects without compromise. And the memory? 2TB of 4800MT/s (DDR5) ensures seamless multitasking and lightning-fast data processing. No more waiting around.

View Accessories

View Spec Sheet

View Use Cases

Recommended configuration.
This is the Swiss Army Knife of Data Science – it's for AI developers or data scientists who will likely have a wide range of diversity in their workflows, including a healthy mix of training, data ingest/cleansing, and inference. DSW and NVIDIA NGC-Ready.

- Number of CPUs: 1
- CPU: AMD® Ryzen™ Threadripper™ Pro 7995WX, 96 cores, 192 threads, 2.50 GHz to 5.15 GHz, 350 W
- Memory: 2048 GB: 8 x 256 GB, DDR5, 4800 MT/s, ECC
- GPU: Dual NVIDIA RTX™ 6000 Ada, 48GB GDDR6
- Storage (Boot): 4 X 1TB, M.2, PCIe NVMe, SSD, Class 40
- OS: Ubuntu Linux 20.04
- Support: 3 Years ProSupport with Next Business Day Onsite Service

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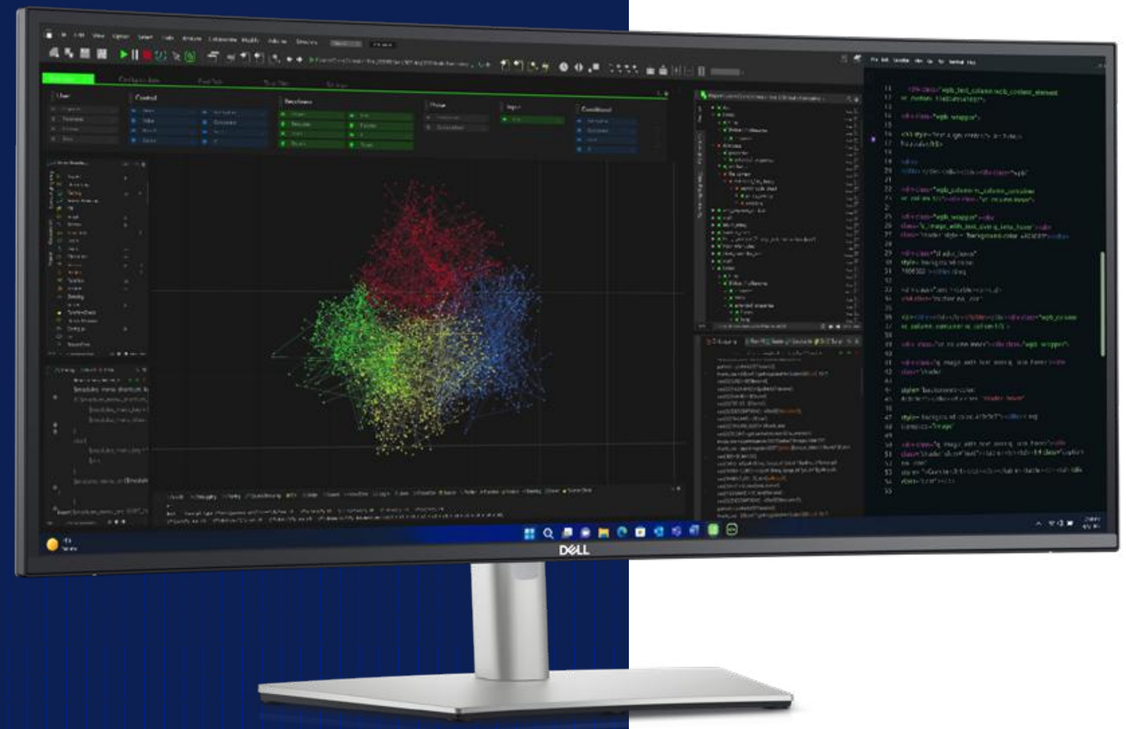
Developer & Data Science AI Workstation

Accessories



Dell UltraSharp 34 Curved USB-C Hub Monitor | U3423WE
Experience immersive productivity with superior contrast and color on a 34” curved WQHD monitor with IPS Black technology and ComfortView Plus.

Dell Premier Multi-Device Wireless Keyboard and Mouse | KM7321W

Experience superior multitasking features with a stylish and comfortable premium keyboard and mouse combo. Complete your tasks powered by one of the industry’s leading battery lives at up to 36 months*.

Dell Pro Wireless Headset | WL5022

Enjoy wireless freedom away from your PC with this Teams certified headset that offers convenient call controls. Switch seamlessly across your PC, tablet or smartphone and enjoy superior audio clarity on the go.

Dell UltraSharp Webcam | WB7022 - 4K UHD

Experience best image quality in its class with the world’s most intelligent 4K webcam.

Precision 7960 Tower – Ultimate Developer & Data Science AI Workstation

Amplify your productivity.

Our ultimate Precision 7960 Tower deep learning offering has massive amounts of compute, storage and memory for the most demanding AI/ML training tasks.

Scale performance to meet your highest requirements, deliver projects with record speeds, while fitting more iterations within your project timelines.

Powerful performance: Run demanding multithreaded engineering applications with up to an 350W Intel® Xeon® Processor.

Best-in-class graphics: Support advanced engineering and artificial intelligence GPU workloads with up to four 300W graphic cards. An extensive range of professional AMD and NVIDIA graphic options are available.

Elevate your purpose: Power your system with an up to 2200W PSU.

Better net value and security vs. cloud services without processing cycle fee constraints.

View Accessories

View Spec Sheet

View Use Cases

Recommended configuration.
This no-compromise Data Science powerhouse is for data scientists or AI developers who are working with multimedia (video, audio, etc.) that expect to do some fairly extensive training on their workstations. DSW and NVIDIA NGC-Ready.

- CPU: Intel® Xeon® W7-3465X (75MB Cache, 56 cores, 56 threads, 2.5GHz to 4.8GHz Turbo 300W)
- Memory: 512GB
- GPU: Up to 4x NVIDIA RTX™ 6000 Ada Generation
- Storage 1 (Fast): 2TB, M.2, PCIe NVMe, SSD, Class 40
- Storage 2 (Archive): 12TB HDD
- Support: 3 Years ProSupport with Next Business Day Onsite Service
- OS: Ubuntu 22.04

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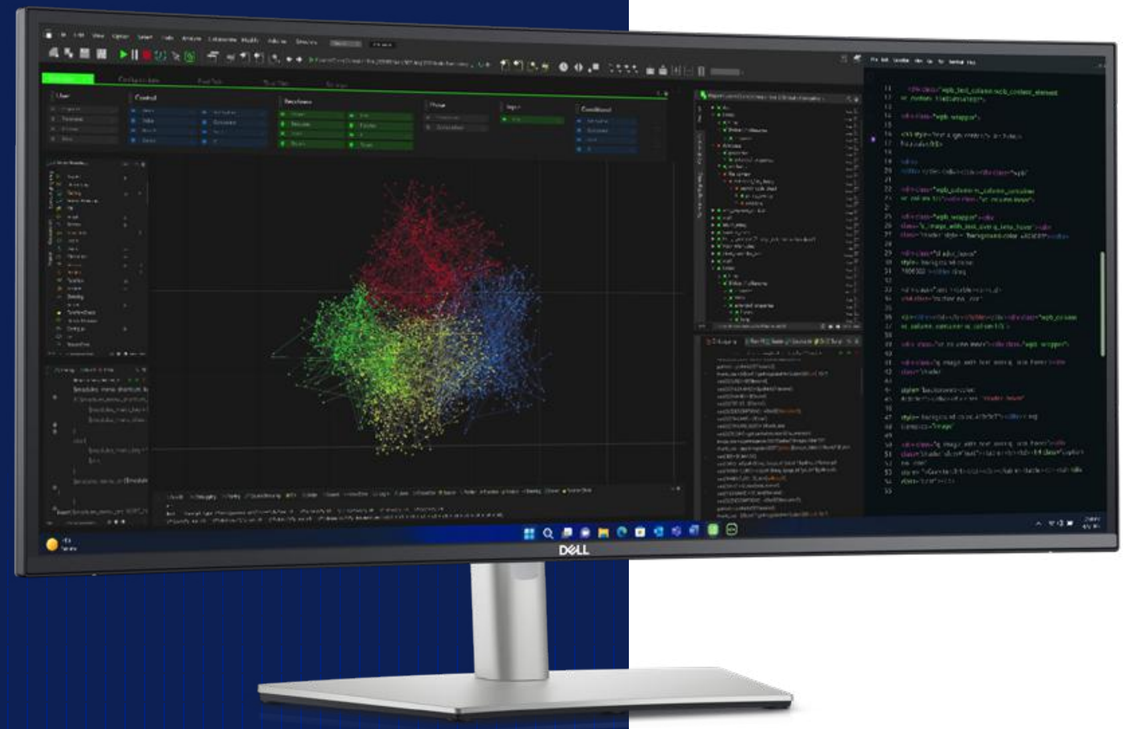
AI READY · NVIDIA RTX · intel. XEON

Developer & Data Science AI Workstation

Accessories



Dell UltraSharp 34 Curved USB-C Hub Monitor | U3423WE
Experience immersive productivity with superior contrast and color on a 34” curved WQHD monitor with IPS Black technology and ComfortView Plus.

Dell Premier Multi-Device Wireless Keyboard and Mouse | KM7321W

Experience superior multitasking features with a stylish and comfortable premium keyboard and mouse combo. Complete your tasks powered by one of the industry’s leading battery lives at up to 36 months*.

Dell Pro Wireless Headset | WL5022

Enjoy wireless freedom away from your PC with this Teams certified headset that offers convenient call controls. Switch seamlessly across your PC, tablet or smartphone and enjoy superior audio clarity on the go.

Dell UltraSharp Webcam | WB7022 - 4K UHD

Experience best image quality in its class with the world’s most intelligent 4K webcam.

Precision 5690 – Standard Mobile Developer & Data Science AI Workstation

A thin and light workstation powerhouse, this is the world's smallest and most intelligent 16" workstation with AI-based optimization*, and is ideal for data science and AI development on the go.

High performance CPUs from the Intel Core i9 processors provide balanced system performance, full instruction set support for accelerated math and ML operations.

Powerful GPUs as AI accelerators, NVIDIA RTX™ 5000 Ada Generation Laptop GPU.

Advanced Thermals: User Selectable Thermals Tables (USTT) Dual Opposing Output (DOO) fan with Turbo blades & vapor chamber Dual intake venting Thermal insulated material, GORE™.

* Based on internal analysis of Precision 5690 vs HP Zbook Studio G10 and Lenovo P1 Gen6 16" workstations. December 2023.

Recommended configuration.
Mobile DBA, developer, or analyst who is exploring the notion of incorporating machine learning or deep learning into the work that they do – either by inferencing in parallel or very light training.

- CPU: Intel® Core™ Ultra 9 185H vPro®Enterprise (24 MB cache, 16 cores, up to 5.10 GHz , 45W)
- Memory: 64GB, LPDDR5x, 7467 MT/s, integrated, dual-channel
- GPU: NVIDIA RTX 5000 Ada Generation DDR6, 16 GB memory
- Storage: 1TB GB, M.2 2280, Gen 4 PCIe x4 NVMe, SSD
- Display: 16" OLED touch, 3840 x 2400, 60Hz, 400 nits, 100% DCI-P3, LBL, IR Camera & Mic with HDR
- OS: Ubuntu Linux 22.04
- Support: 3 Years ProSupport with Next Business Day Onsite Service

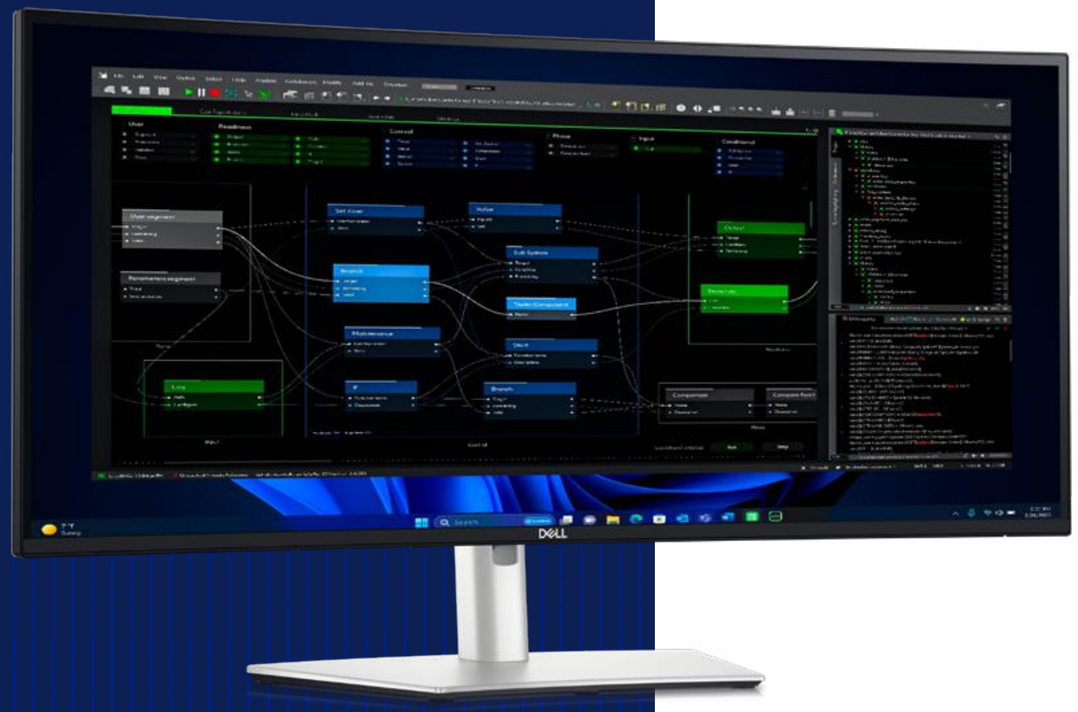
NVIDIA RTX™ 5000 Ada GPU
For high performance mobile data science workflows, we recommend the RTX™ 5000 Ada GPU.

View Accessories

View Spec Sheet

View Use Cases

Accessories



Dell UltraSharp 34 Curved Thunderbolt™ Hub Monitor | U3425WE
Experience clear focus and greater comfort with a 34” curved Thunderbolt™ hub monitor featuring 5-Star Eye Comfort and 120Hz refresh rate.

Dell Performance Dock | WD19DCS
Boost your PC’s power with up to 210W on Dell’s most powerful dock. Charge your system faster, support up to three displays and connect to your peripherals via a single cable with dual USB-C connectors.

Dell Premier Rechargeable Mouse | MS900
This premium mouse was designed with a surreal level of detail to be extremely comfortable and easy to use thanks to its sculpted curves, innovative scroll wheel and powerful battery.

Dell Premier Collaboration Keyboard | KB900
World’s 1st collaboration keyboard with dedicated Zoom touch controls for effortless one-touch controls on Zoom calls.

Precision 7680 – Advanced Mobile Developer & Data Science AI Workstation

Dell's most powerful 16" mobile workstation with AI.

High performance CPU Up to 13th Gen Intel® Core™ i9 HX (55w) processors, 24 core (8P +16E).

Make everything stand out:
Choose up to 16GB NVIDIA RTX™ 5000 Ada Generation Laptop GPU.

Stay cool, calm and productive:
Optimize performance with advanced thermals featuring dual opposing output fans and user selectable thermal tables.

No idea is too big:
Store your work confidently with up to 12TB of storage and up to 128GB of memory via CAMM and NECC DDR5 memory.

Recommended Configuration:
This portable Swiss Army knife for data science is for on-the-go AI developers or data scientists who will likely have a wide range of diversity in their workflows, including a healthy mix of training, data ingest/ cleansing, and inference. DSW and NVIDIA NGC-Ready.

- CPU: Intel® Core™ i9-13950HX (36MB Cache, 32 Threads, 24 Cores up to 5.5GHz, 55w, vPro)
- GPU: NVIDIA RTX™ 5000 Ada 16GB GDDR6 128GB
- Memory: 1x128GB 3600MHz CAMM
- Storage: non-ECC 512 GB, M.2 2280, Gen 4 PCIe x4 NVMe, SSD 16-inch
- Display: FHD+ 3840x2400, 60 Hz, Anti-Glare, Touch-screen
- OS: Ubuntu Linux 22.04
- Support: 3 Years ProSupport with Next Business Day Onsite Service

View Accessories

View Spec Sheet

View Use Cases

AI READY

NVIDIA RTX

intel XEON

Accessories

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Dell Professional Dock | WD19DCS
Boost your PC’s power up to 210W on the world’s most powerful and first modular Dual USB-C dock with a future-ready design.

Precision 7780 – Ultimate Mobile Developer & Data Science AI Workstation

Dell's most powerful mobile workstation is also the most intelligent – now AI-ready!

High performance CPU 13th generation Intel Core™ Processors.

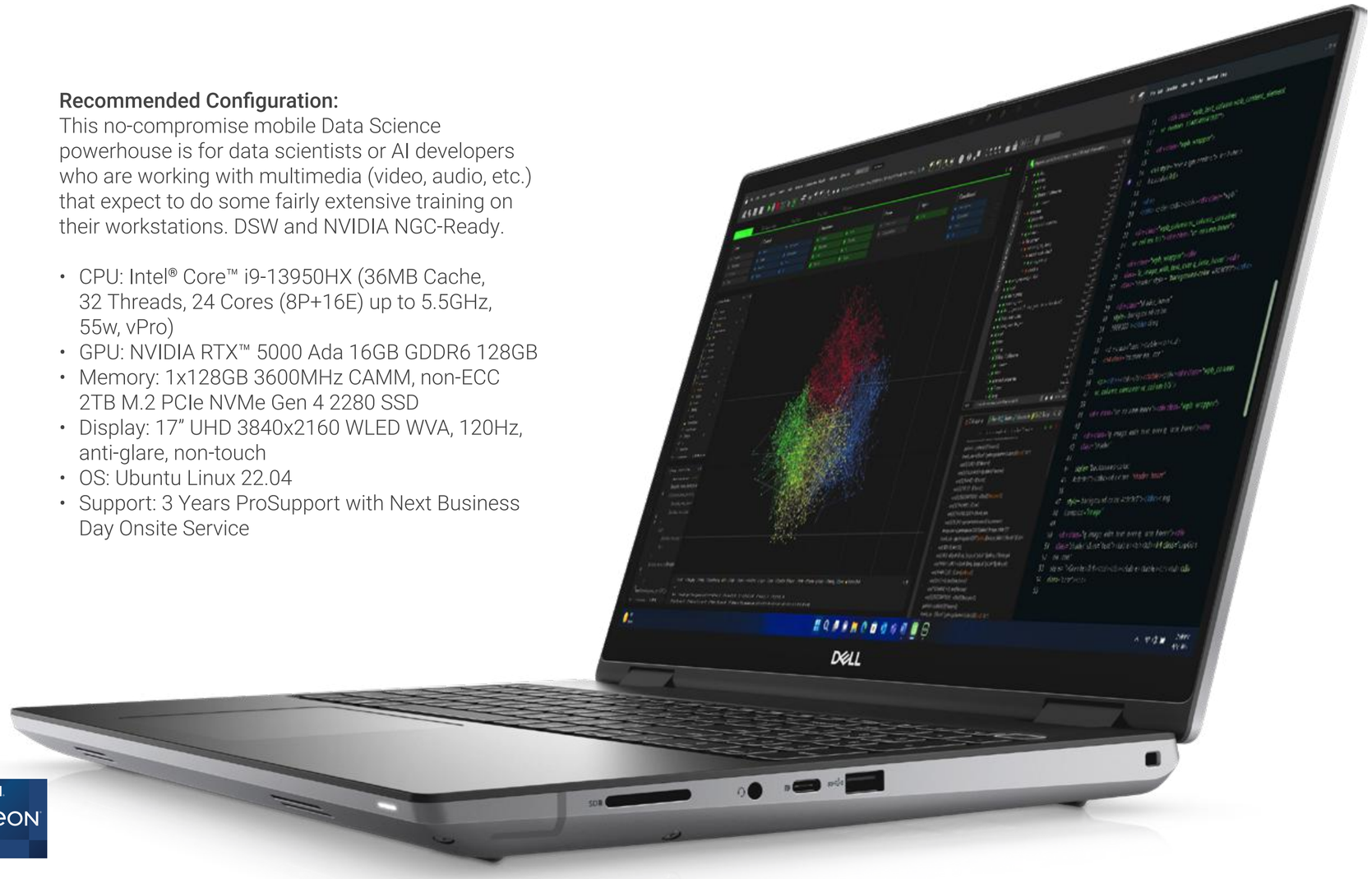
Powerful GPU compute with NVIDIA RTX™ 5000 Ada Generation Laptop GPU.

High memory and storage capacity in a mobile form factor with up to 128GB memory, allowing fast problem solving in RAM and up to 4 physical storage devices.

Our most scalable 17" mobile workstation is VR and AI ready. It introduces new 13th Gen Intel® processors, next gen NVIDIA graphics, 5600MHz memory, 16TB of fast SSD storage, and more. Enhanced by Dell Optimizer for Precision, featuring new ExpressConnect and reporting technologies.

Recommended Configuration:
This no-compromise mobile Data Science powerhouse is for data scientists or AI developers who are working with multimedia (video, audio, etc.) that expect to do some fairly extensive training on their workstations. DSW and NVIDIA NGC-Ready.

- CPU: Intel® Core™ i9-13950HX (36MB Cache, 32 Threads, 24 Cores (8P+16E) up to 5.5GHz, 55w, vPro)
- GPU: NVIDIA RTX™ 5000 Ada 16GB GDDR6 128GB
- Memory: 1x128GB 3600MHz CAMM, non-ECC
- 2TB M.2 PCIe NVMe Gen 4 2280 SSD
- Display: 17" UHD 3840x2160 WLED WVA, 120Hz, anti-glare, non-touch
- OS: Ubuntu Linux 22.04
- Support: 3 Years ProSupport with Next Business Day Onsite Service

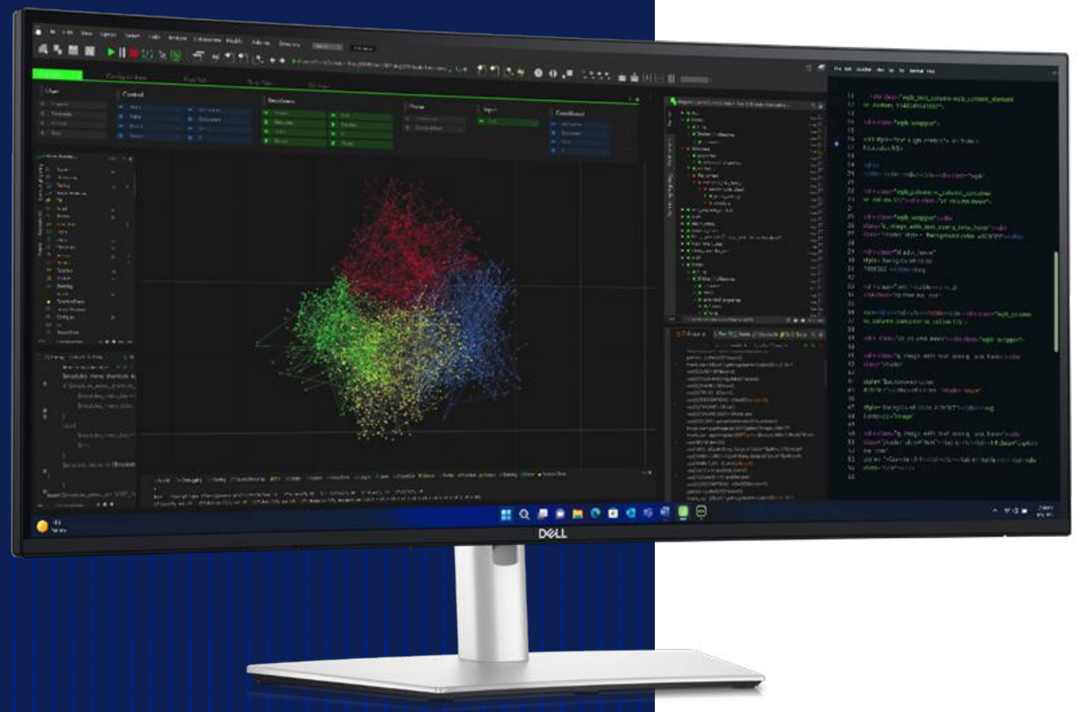


View Accessories

View Spec Sheet

View Use Cases

Accessories



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Dell Professional Dock | WD19DCS
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Precision 7960 Rack – Remote Developer & Data Science AI Workstation

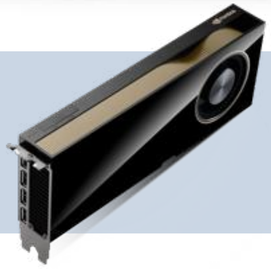
The pinnacle of data science workstations.

Extreme performance from one or two Intel Xeon Scalable Processor Family containing up to 56 cores per processor

Double GPUs as AI accelerators featuring NVIDIA RTX™ 6000 Ada Generation cards providing 96GB of graphics memory for larger data science data sets and enhanced dual-card compute performance.

Massive memory capacity up to 8TB of ECC memory allowing fast problem solving and extreme reliability.

Develop remotely and on your terms.
A shared workstation makes sense for a number of reasons: some staff prefer to carry systems too thin and lite for data science jobs, others are unfamiliar with operating systems data science typically runs on, some won't want their systems tied up for hours or days training models – the Precision 7960 rack addresses all of these scenarios.The Precision 7960 workstation delivers the highest level of secure remote access, unleashing ultimate AI and data science performance that can beshared easily and efficiently by your team.



The NVIDIA RTX™ 6000 Ada is designed to meet the requirements of demanding data science workflows. Powered by new NVIDIA Ampere architecture, the RTX™ 6000 Ada delivers the extreme memory capacity, stability, and performance data scientists need to gain insights more quickly than ever before.

Recommended configuration.

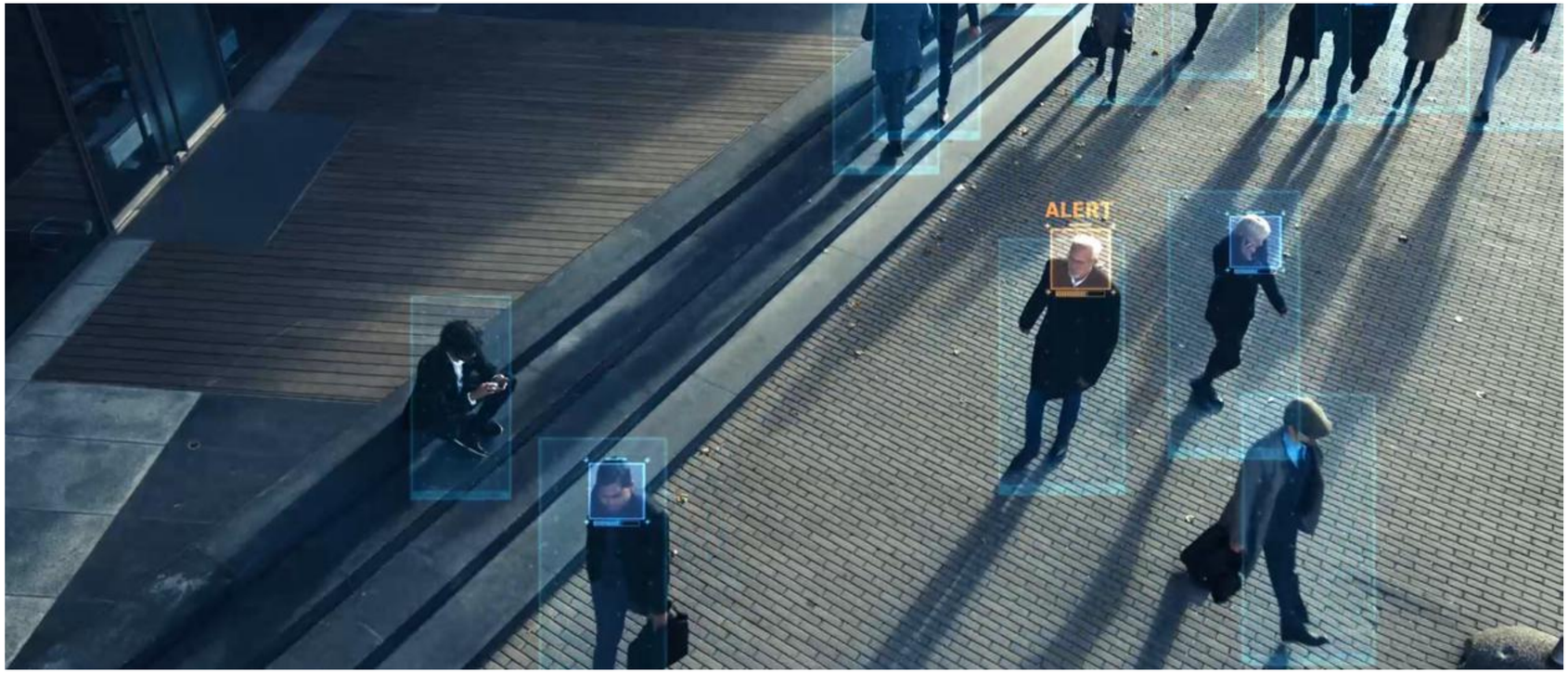
- Number of CPUs: 2
- CPU: Intel Xeon Silver 8 Cores (up to 28 cores per processor)
- Memory: 192GB 2933MHz
- GPU: Dual NVIDIA RTX 6000 Ada (under recommended config)
- Storage (Boot): NVMe 1TB SSD
- Storage 1 (Fast): 2 x NVMe 1TB SSD
- Network: 1+4 1Gb integrated (2 x 10Gb optional)
- Remote access/management: Ubuntu Linux's inherently remote login, Wyse & Teradici PCoIP, Dell iDRAC options

View Spec Sheet

View Use Cases

AI Deployment

AI Deployment



Improve your demanding workflows by adding AI capabilities powered by a Precision workstation.

Find Out More

AI Deployment

Unleash your full potential with AI.

Many people are already performing computationally demanding jobs that require workstations. As AI adoption is growing, we need workstations that can incorporate AI algorithms on top of their already-demanding workflows.

While these AI models are typically deployed pre-trained (Inference), they require additional computational power, and often demand new types of resources such as NVIDIA RTX™ professional GPUs and Intel processors with DLBoost capabilities. Dell Precision workstations provide the agility needed to tackle these demanding split workloads, unleashing new possibilities offered by AI, while continuing to provide dependable performance for professional applications.

Fixed

Find out More

Mobile

Find out More

AI Deployment Fixed

AI Precison fixed workstations provide a wide range of AI deployment opportunities.

Compare Precision Towers for AI Developers and Data Science

3000 Series

Solid AI deployment workstations for situations where smaller size and budgetary concerns are paramount.

5000 series

Pulls double duty as an entry AI deployment platform and a AI deployment powerhouse.

7000 Series

Provides ultra performance for situations where both AI development and AI performance are critical.

	3000 Series	5000 series	7000 Series
Single Processors	○	●	●
Dual Processors	○	○	●
Performance Options	○	◉	●
Storage Capabitilities	○	◉	●
AI Development	◉	◉	●
AI Deployment	○	◉	●

Key

N/A	○
Good	○
Better	◉
Best	●

Jumpstart your journey to GenAI success

AI Deployment Mobile

AI Precision mobile workstations provide a wide range of AI deployment opportunities.

Compare Precision Mobile Workstations for AI Developers and Data Science

3000 Series

Solid AI deployment workstations for situations where smaller size and budgetary concerns are paramount.

Performance Options	●
Professional Graphics Performance	○
Memory Capacity	●
SSD Storage	●
AI Development	○
AI Deployment	◉
Mobility	●

5000 series

Thin and light workstations for light AI development or heavy AI inference and deployment situations where mobility is paramount.

Performance Options	●
Professional Graphics Performance	●
Memory Capacity	●
SSD Storage	●
AI Development	○
AI Deployment	◉
Mobility	◉

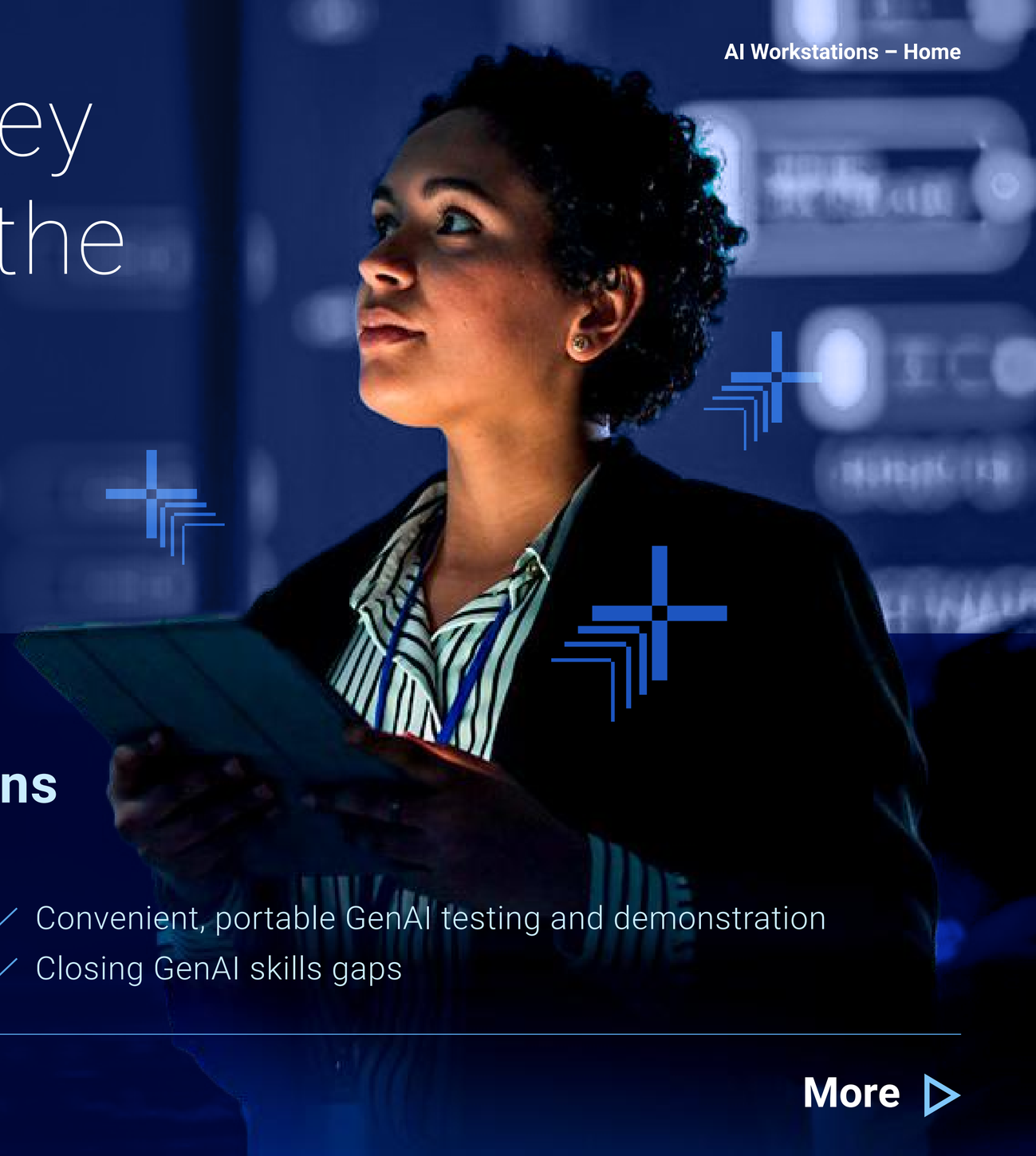
7000 Series

provides ultra performance for situations whre both AI development and AI performance are critical.

Performance Options	◉
Professional Graphics Performance	◉
Memory Capacity	◉
SSD Storage	◉
AI Development	◉
AI Deployment	◉
Mobility	●

Key	
N/A	○
Good	◯
Better	●
Best	◉

Jumpstart your journey to GenAI success on the #1 workstation brand worldwide



Accelerator Services for **RAG on Precision AI-ready Workstations**

A ready-to-use mobile lab for:

- ✓ Rapid prototyping in a pre-validated environment
- ✓ Cost-effective, low-risk exploration of GenAI use cases
- ✓ Convenient, portable GenAI testing and demonstration
- ✓ Closing GenAI skills gaps

More

Accelerator Services

for RAG on Precision AI-ready Workstations

Don’t already have the required Precision mobile workstation?
Benefit from our **‘Try Before You Buy’** program.

A sandbox environment for GenAI experimentation

Deployed and configured RAG architecture

NVIDIA AI Workbench platform ready for developers

Pre-configured to run software and validated for performance

Foundational use case to enable further exploration

Initial chatbot use case implemented with your data

Close skills gaps and drive future GenAI success with knowledge and best practice sharing

Learn More

Back

Dell AI Customer Stories

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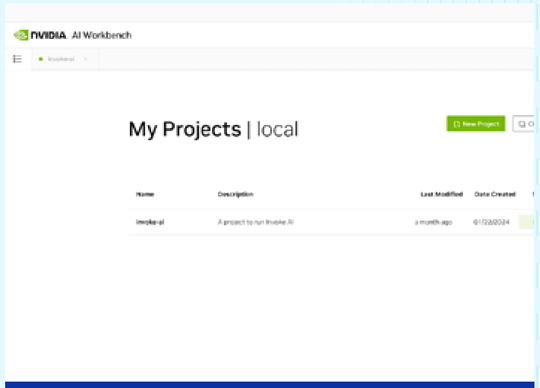
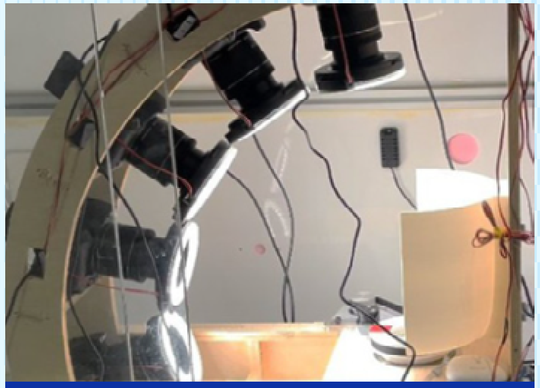
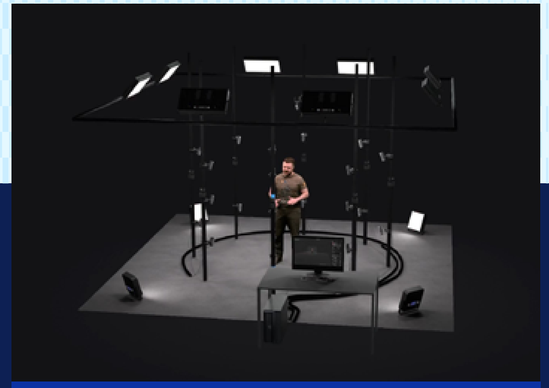
ORBITAL STUDIOS

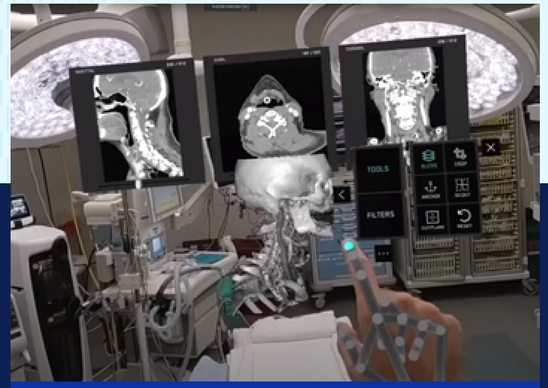




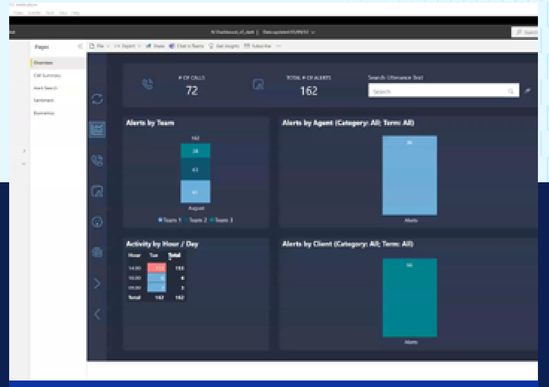
FORGE



EVERCOAST



MEDIVIS



INTELLIGENT VOICE

tubular.network

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DIGITAL.HUMANS.COM

GenAI Digital Assistants in the Enterprise

Deliver engaging and personalized experiences – trained on company

Business Needs
Elevate customer and employee self-service experience to provide personalized interactions with natural facial expressions, gestures, and various languages – trained on domain and company-specific dataset to share knowledge.

Solutions
By training the digital assistant on a RAG model, it optimizes the output of an LLM by referencing an authoritative knowledge base outside of its training data. This architectural approach improves the efficacy of LLM application and mitigates unpredictability of responses.

Benefits
Build an ethical and secure digital assistant interface platform that uses concepts applied to enterprise systems The fully integrated solution brings digital assistants to the forefront of human interactions and drives operational efficiencies in both internal use cases and externally facing customer interactions.

Technology Stack

Precision 3000 & 5000
NVIDIA RTX™ 5000 & 6000 Ada
NVIDIA AI Enterprise

DVD Digital Assistant Infographic
Digital Assistant Design Guide
I am Andie

ORBITAL STUDIOS

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Technology Stack

Precision 3000 & 5000
NVIDIA RTX™ 5000 & 6000 Ada
NVIDIA AI Enterprise

DVD Digital Assistant Infographic

Digital Assistant Design Guide

I am Andie

Dell AI Customer Stories

invoke

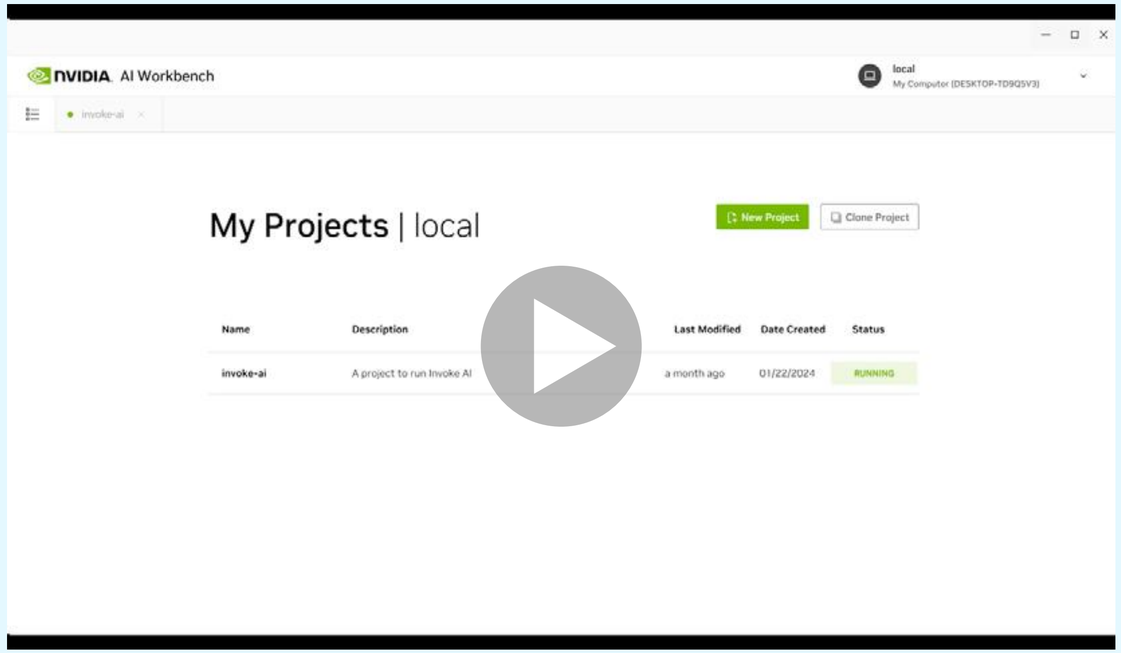
A powerful, secure, and easy-to-deploy GenAI platform

Train models on IP and maintain complete ownership of data

Business Needs
Enterprises and individuals alike are seeking to harness GenAI to elevate their creative workflows. The ability to deploy GenAI tools in an isolated environment and on-premises may be difficult to know where to start.

Solutions
By leveraging the most advanced features of open-source models, Invoke Enterprise offers a scalable solution that meets these specific needs of businesses, provides unparalleled creative control, and keeps business' intellectual property secure locally on Precision workstations.

Benefits
Deploy generative AI tools in an isolated environment. Empower creative teams with powerful image generation tools — securely and at scale with workstations. Help safeguard IP, ensuring access to the most powerful generative AI technology while protecting against legal and compliance risks.



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Technology Stack

Precision 5690
Precision 7780
Precision 7960
NVIDIA RTX™ 5000 Ada GPU
NVIDIA RTX™ 6000 Ada GPU

NVIDIA AI Workbench
Invoke Dell Blog

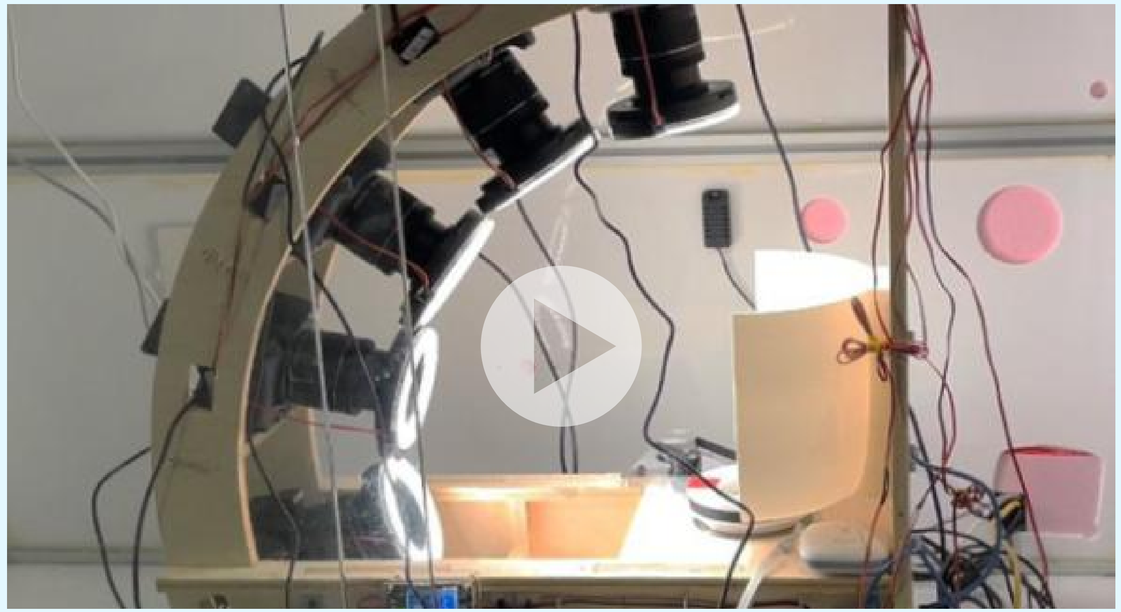
Exploring Earth's frontiers in virtual reality

World's first use of time-lapse photogrammetry and volumetric video

Business Needs
Forager began experimenting with stop-motion and time-lapse photography, wanting to capture the natural world in ways not possible before to gain greater insights and understanding of the forest environment.

Solutions
For the needed 3D volumetric image capture and processing, their technology stack's foundation includes Precision workstations with NVIDIA RTX™ professional GPUs for high performance in graphics processing, and NVIDIA Omniverse™ Enterprise software to simplify the use of disparate 3D and VR tools and datasets in their workflows.

Benefits
By unifying 3D tools and datasets, Precision hardware and NVIDIA software greatly simplify complex and time-consuming tasks. The computing platform allows to interchange data and assets between tools and significantly decrease the need for import/export and data transfer between tools.



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Technology Stack

Precision 7780
Precision 7960
NVIDIA RTX™ 5000 Ada GPU
NVIDIA RTX™ 6000 Ada GPU

NVIDIA AI Workbench
Invoke Dell Blog

"With Dell Technologies and NVIDIA powering our efforts, we're able to cut the time it takes us for our end-to-end frame capture and export workflows from one hour to just 20 minutes."

Elie Zananiri
Co-founder & Technical Director, Forager

EVERCOAST

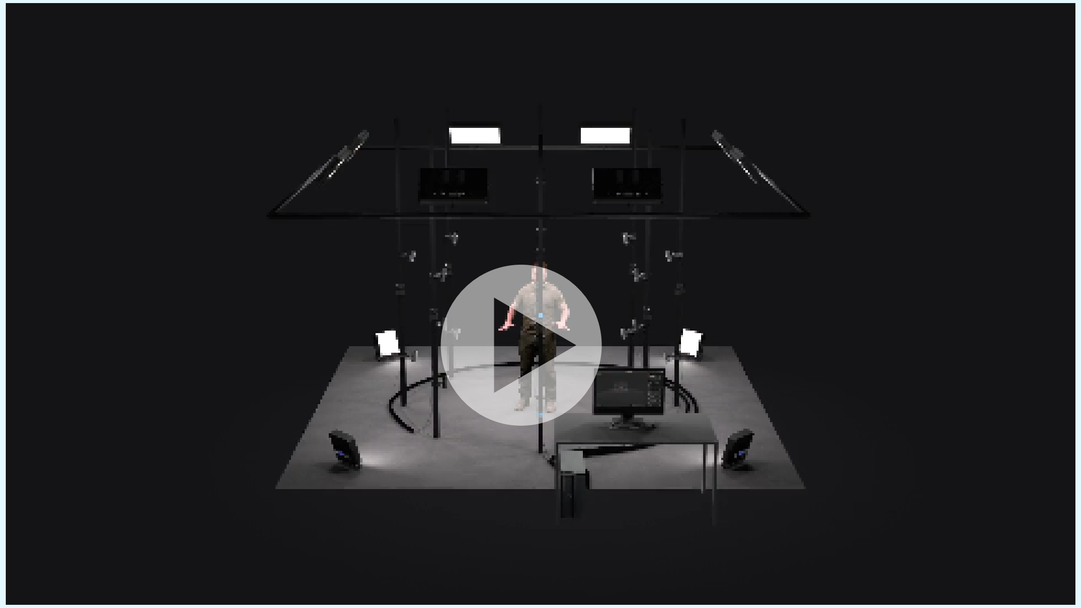
Welcome to the world of 3D volumetric video

Unlock creative potential for realistic animated content production

Business Needs
Two-dimensional (2D) video restricts viewers to a fixed perspective with little or no potential for interactivity, much less immersion.

Solutions
3D technology harnesses advanced sensors and computation to capture multiple viewpoints simultaneously from different angles. Evercoast' s platform can generate high-fidelity reproductions of dynamic environments in three dimensions in both real-time and for recorded content.

Benefits
By utilizing Dell Precision 7960 workstations, the NVIDIA GPUs have boosted I/O speeds by about 1,000 times. More cameras can be added to setups, plus more video capture cards and GPUS, giving both developers and customers much more speed, capabilities, and ultimately, value than ever.



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Technology Stack

Precision 7960
NVIDIA RTX™ 6000 Ada GPU

Medivis Use Case Brief

"Dell Precision workstations with NVIDIA RTX GPUs inside them are putting what was once supercomputing power into desktop and laptop form factors. We don't have to tap into racks and racks of servers to get the massively parallel data processing we need."

Ben Nunez
Co-founder & Technical Director, Evercoast

MEDIVIS

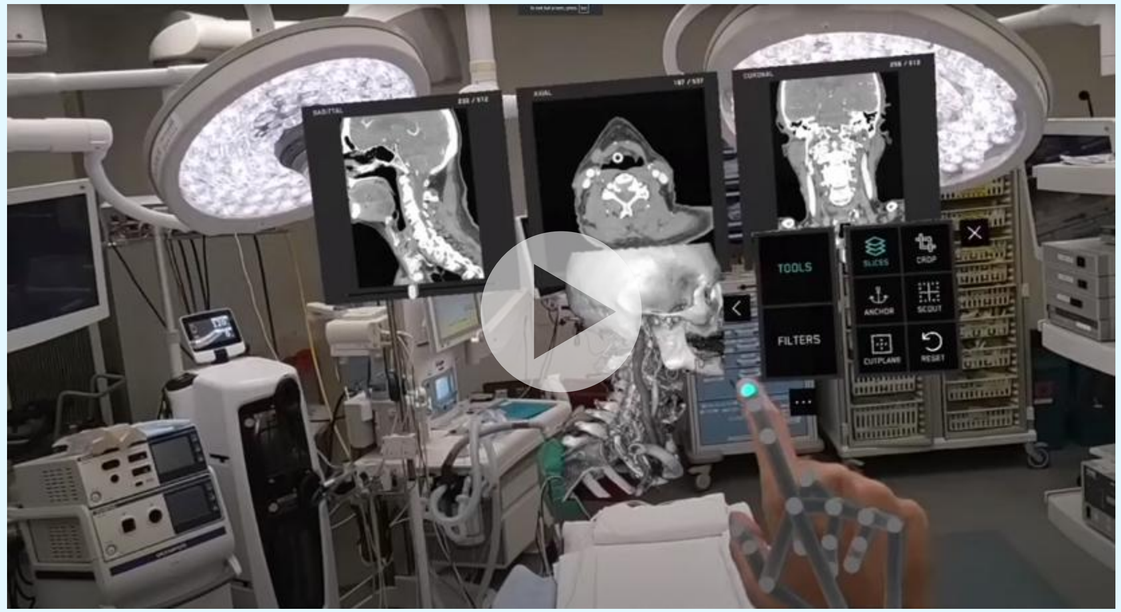
Welcome to the world of advanced surgical visualization

New York-based company enhances surgical precision with AR and AI

Business Needs
Unsafe surgical practices cause complications in up to 25% of patients[1], which results in prolonged operating times as well as additional medical interventions.

Solutions
Medivis uses powerful hardware from Dell Technologies and NVIDIA to develop its AI as well as to power its SurgicalAR solution in clinical environments.

Benefits
The surgical team can rehearse and perform operations with greater confidence, reducing complications from potential errors. Now with SurgicalAR models, Medivis offers hospitals options that can expand the use of real-time, high-resolution 3D holographic visualization beyond the operating room.



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Technology Stack

Precision 3000 & 7000 series | Medivis Use Case Brief

> "Last term, students using AR demonstrated a one- to two-letter improvement with 95% reporting their learning was enhanced. We also saw a 20% decrease in failures."

Segar Annamalai
Senior Vice President and CIO, West Coast University

Dell AI Customer Stories

INTELLIGENT VOICE

Advancing Audio Insights with AI

Empowering businesses with advanced voice intelligence solutions

Business Needs

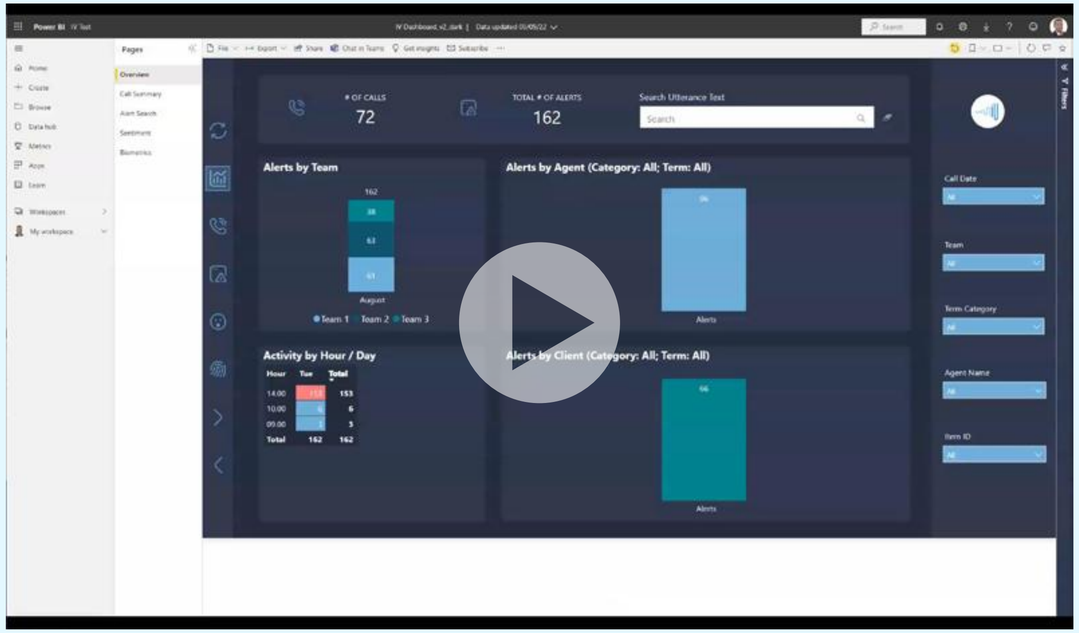
Organizations are increasingly challenged to manage the vast audio data from customer interactions and business operations, necessitating speech processing solutions that not only comply with stringent privacy regulations but also surpass traditional methods in speed and security in a world where data protection is crucial.

Solutions

Leveraging Dell Technologies' robust hardware and NVIDIA's advanced GPUs, Intelligent Voice delivers high-speed, secure speech-to-text conversion and NLP services. Their solutions are designed to meet the rigorous demands of sectors such as finance, law enforcement, and legal services.

Benefits

Clients benefit from Intelligent Voice's technology by achieving faster, more accurate data analysis while maintaining compliance with privacy standards. The partnership with Dell Technologies ensures that Intelligent Voice's solutions are scalable, reliable, and at the forefront of AI innovation, enabling a wide range of applications from fraud detection to behavioral analytics.



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Technology Stack

Precision 3000 & 7000 series

> "Generative AI represents an inflection point that is driving fundamental change in the pace of innovation while improving the customer experience and enabling new ways to work. Customers, big and small, are using their own data and business context to train, fine-tune and inference on Dell infrastructure solutions to incorporate advanced AI into their core business processes effectively and efficiently."

James Laird
Chief Operating Officer of Intelligent Voice

tubular.network

Decarbonizing the transportation of goods

Reducing emissions associated with first-and last-mile delivers with AI

Business Needs
Outdated goods delivery methods generate excess supply chain bottlenecks and carbon emissions.

Solutions
To develop its hyperlogistics architecture, Tubular Network uses Precision AI-ready workstation to train the AI-directed autonomous shuttles inside underground tubes, greatly reducing carbon emissions from physical goods.

Benefits
With such vast processing power, Tubular Network has been able to use 3D digital twins to rapidly create and evaluate protypes. With the combination of Dell Precision AI-ready workstations and NVIDIA GPUs, it has expanded creative horizons.

Play Video

Technology Stack

Precision 7875
NVIDIA RTX™ 6000 Ada GPU

NVIDIA Omniverse ™ Enterprise
NVIDIA Jetson Nano™
Tubular Network Use Case Brief

"With such vast processing power, we've been able to use 3D digital twins to rapidly create and evaluate about 150 physical protypes and many times that number of virtual ones."

Dylan Mankey
Co-founder & Chief Technology Officer, Tubular Network

DELL Technologies

Taking the next step

Embrace this technology, harness its potential, and lead your organization into a future where AI empowers us all to achieve unprecedented heights of productivity and creativity.

Contact a Dell Technologies Solutions Expert

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NVIDIA

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