Why Lenovo Workstations for AI Development?

What is AI Development?

AI Development is the workflow associated with the creation and maintenance of AI models. This workflow can include data preparation and model creation with training and fine-tuning.

The current trend of Large Language Models (LLMs) is the accumulation of many years of work creating complex AI models and associated Neural Networks. However, LLMs are actually a sub-set of machine and deep learning and part of a broader data science and AI workflow. Advances in hardware, software and the quality and quantity of data available have enabled us to get where we are today.

Optimizing AI Development with Lenovo Workstations

Companies everywhere are embracing AI to drive innovation, efficiency and a competitive advantage; however, the talent needed to execute on a company's AI strategy don't come cheap, and the compute power needed to develop and deploy AI can become cost prohibitive to deliver at scale.

Lenovo ThinkStation & ThinkPad P Series are engineered as the on-ramp to AI, built to provide incredible computing power and AI Developer efficiencies.

Why AI-Ready Workstations Matter?

Faster TTI
Time to Insight is critical for companies needing to extract valuable insight from their data

Lower TCO
Efficiently deliver AI Solutions with the lowest total cost of ownership

Security
On-premise local secure sandbox environments for AI Developers

Maximum Efficiency
Maximize the efficiency of AI & Data Science Resources

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Hierarchy of Artificial Intelligence

Artificial Intelligence can be visualized as having five more specialized layers, each representing a step towards greater complexity and capability in the field. From AI, the broadest all-encompassing category, to LLMs, the most advanced and specialized models, this hierarchy illustrates the progression of AI technologies.

Recognizing these layers is helpful for understanding how different AI technologies interconnect and fit within the broader AI ecosystem. These workflows are accelerated by the power and performance of Lenovo Workstations with professional NVIDIA RTX™ GPUs.

Artificial Intelligence

Technology that mimics human intelligence using logic, rules, and algorithms.

Machine Learning

AI that improves through experience using statistical techniques.

Neural Networks

Algorithms inspired by the human brain, used for tasks like image and speech recognition.

Deep Learning

Advanced neural networks with many layers for complex data analysis.

Generative AI

Deep learning models that create new content.

Large Language Models

Massive pre-trained models for generating and understanding text.

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The benefits of Lenovo AI-Ready workstations

Lenovo Workstations or Servers

Designed to deliver a more agile and accessible, high-performance AI user experience, Lenovo Workstations allow for a local device with the high-performance capacity needed to develop AI workflows. Designed to be accessed 1:1 by Data Science and AI professionals, unlike servers, which are traditionally shared compute resources amongst teams and organizations. This enables a faster and more productive AI workflow, one that can be enhanced by the very latest CPU technologies and the NVIDIA accelerated computing platform, including NVIDIA RTX™ GPUs, found inside every Lenovo Workstation.

Lenovo Workstations or the Cloud

Cloud-based AI solutions are easy to access with attractive onboarding prices but can become expensive as projects scale. Cloud Service Providers (CSPs) may not always offer the latest NVIDIA RTX™ GPUs. If they do, they can come at a premium price, and the exact GPU generation may not always be clear.

Workstations like the Lenovo ThinkStation PX, for example, support up to four of the latest NVIDIA RTX™ GPUs. Combined with NVIDIA® Workbench, included in the NVIDIA® AI Enterprise software platform, Lenovo workstations help offset the cost of running GPU workloads from the cloud, delivering a high-performance, fixed-cost, secure on-prem sandbox environment for AI developers.

Lenovo Workstations complement cloud solutions by providing the right hardware, to the right users, in the right locations, enhancing efficiency and cost-effectiveness early in the AI Developer workflow.

Managing TCO with Lenovo Workstations

As the number of employees working on AI projects grows, it is important for companies to understand their Total Cost of Ownership for AI. With potentially hundreds of employees consuming low cost compute resources in the cloud, and with growing data egress charges when customers want their data back, this can become cost prohibitive and unsustainable at scale.

Lenovo Workstations, delivered through Device as a Service (DaaS) and TruScale delivers advanced AI capabilities for a fixed cost per day per user, making it an attractive option for managing budgets, while scaling AI development efforts.

Why Lenovo Workstations

Lenovo workstations are designed to not just meet but exceed the rigorous performance demands of AI development. They offer:

Bleeding Edge Workstation Hardware
ThinkStation PX is the World's Most Powerful AI Developer Workstation

Industry Leading Reliability & Support
30+ Years of Enterprise IT Think Heritage

Maximum Security
Local, secure sandbox environment for developers, powered by ThinkShield

Open-Source Leadership
Linux OS & AI Framework Eco-System Certification

Scalability & Flexibility: Scale up and out options with ThinkSystem & ThinkEdge. Enable robust end-to-end AI solutions from the world's number #1 PC manufacturer

By choosing Lenovo workstations for AI, businesses can ensure they have the performance, reliability, and cost-efficiency needed to successfully develop and deploy AI solutions.

Discover more about Lenovo AI-Ready Workstations

Contact your Lenovo sales representative today to learn more about how our AI-Ready Workstations can transform your business operations.

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