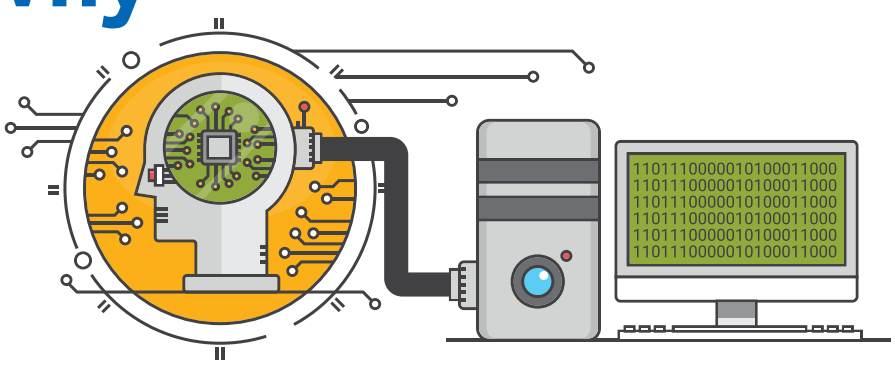
Developing Deep Learning Applications in an AI-Enabled World

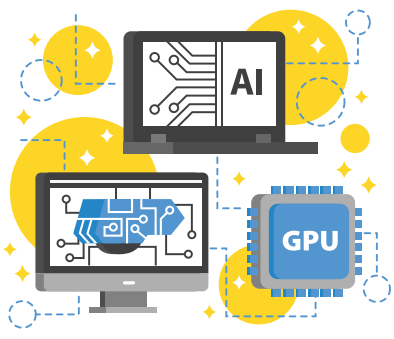
An IDC Infographic, sponsored by AWS

Machine and Deep Learning: What and **Why**

Machine learning: A process for creating computer systems that can learn and function without human guidance.



Deep learning: A type of machine learning based on neural networks that enables computers to learn continuously and independently.



Organizations use deep learning to build AI into applications and business processes.

Market Trends and Capabilities

Spending on machine learning and deep learning solutions will exceed

$57 BILLION BY 2021

By 2026

75% OF ALL ENTERPRISE APPLICATIONS

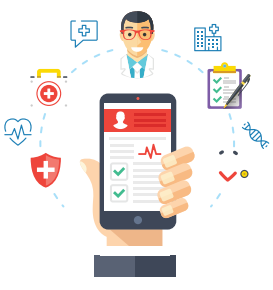
will include some aspect of machine/deep learning for predictions, recommendations or advice.

Machine/deep learning can:

- Augment human judgment
- Accelerate investigation and discovery
- Personalize outcomes and recommendations
- Automatically uncover organizational knowledge
- Uncover and standardize best practices

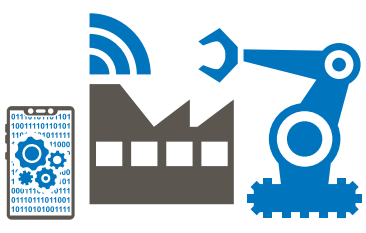
Industry Use Cases

Organizations use deep learning to add intelligence to applications and business processes, and speed innovation.



Large healthcare organizations. Deep learning-based, cloud-hosted computer vision applications democratize and accelerate "best practice" diagnosis and treatment.

Global financial institutions. AI-enabled applications accelerate and automate workflows that handle financial transactions.



Manufacturing companies. IoT and deep learning models inform sophisticated predictive maintenance strategies. By processing manufacturing systems data, AI can predict failures before they occur.

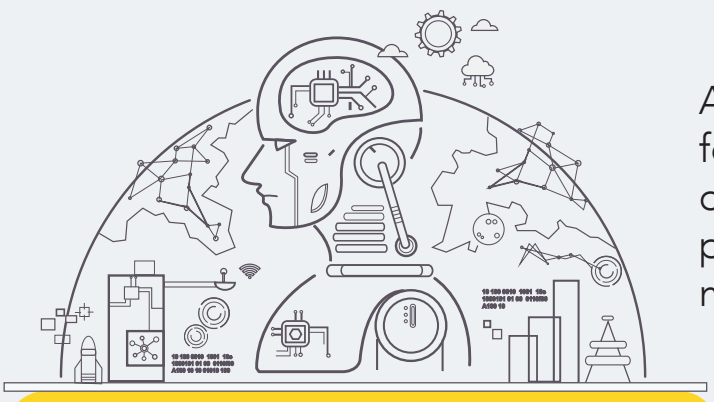
Machine Learning Tools from AWS

Key market concerns for AI-enabled applications:

Better/simpler tools

Quicker time to market

Efficiency



AWS offers a range of tools and services for machine/deep learning developers designed to accelerate and simplify the process of creating, training, and deploying models into production applications.

Amazon SageMaker. A fully-managed platform that enables developers and data scientists to quickly and easily build, train, and deploy machine/deep learning models at any scale, with built-in model tuning and high-performance, machine learning algorithms optimized for speed, scale, and accuracy.

AWS Deep Learning AMIs (Amazon Machine Images). Customized machine images for Amazon EC2 that come pre-installed with popular deep learning frameworks such as TensorFlow and PyTorch, and are pre-configured with the drivers and libraries you need for a quick start to build and train deep learning models.

Combining machine/deep learning tools, frameworks and technologies into a single integrated platform provides significant productivity enhancements for organizations and developers.

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