# Artificial Intelligence

# Intel and A

Artificial intelligence and machine learning can accelerate intelligence analysis, increase safety, improve delivery of government services, reduce waste, streamline logistics, and help protect the environment. Federal agencies gather more data than almost any other entity, and artificial intelligence (AI), machine learning (ML), and deep learning (DL) are techniques needed to turn that data into knowledge.

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Intel is your partner in bringing all that to life, from the edge to the data center or cloud—according to your purpose and need.

## Why Intel?

You know Intel as the world leader in computer processing chips; our CPUs are found in everything from laptops to fighter jets and satellites. But there's more to Intel than processors. Intel is also a global leader in open-source software development, employing about 20,000 software engineers and some of the world's top contributors to the open-source community. We believe the marriage between hardware and software is more fruitful when you can reuse software components for different applications instead of coding them from scratch. Open-source repositories (such as https://github.com/intel) accelerate development, which can help agencies save time and money, and generate capability more quickly.

## **End-to-end Al acceleration**

The Intel AI portfolio covers everything from data science laptops and workstations to data preprocessing, ML/DL modeling, and deployment in the data center and cloud—and at the intelligent edge. To support those diverse requirements, Intel also offers a range of processors. Choose between Intel® Xeon® Scalable processors for data centers, with built-in Intel® Accelerator Engines for AI; Intel® Core™ processors for data science laptops, workstations and edge applications; Intel® GPUs for intensive parallel processing; Habana® processors for DL in the cloud; or Field-Programmable Gate Arrays for optimized hardware solutions. Whatever your AI application, Intel has the processors that fit the purpose to answer the call.

# **Democratizing AI**

With Intel, you don't need a PhD in data science to solve your AI challenges. Pre-built and optimized software open-source applications and design tools that are accessible through an easy-to-navigate graphical user interface enable access to a host of programming resources. Instead of coding from scratch, it's as easy as drag-and-drop.

Cost efficiency and code reuse enhance AI development. The same code can run on different architectures and in different environments, from data centers to the edge, reducing development costs and accelerating the speed of deployments.

Intel Confidential

## Made in the USA

Intel is committed to expanding manufacturing capacity and capability in the USA. It is also expanding its domestic chipmaking production to ensure long-term supply chain reliability so US government customers can have confidence in supply chain security and availability. Intel already has world-class fabrication facilities in Arizona and Oregon. Beginning In 2022, we invested \$20 billion to build as many as eight fabs in Ohio.

## **Unlimited possibilities**

Intel AI technologies and partner solutions open a world of possibilities, with unmatched free tools, libraries, optimized software frameworks, and a massive partner ecosystem. Build your team's knowledge base with more than 250 hours of available course content endorsed by more than 50 community colleges in 32 states, which have adopted the modules as credit- and/or certificate-worthy curricula.

# Al you can trust

Understanding your AI models is the first step to building trust in their outputs. By constraining the types of intelligence employed, AI models can be made more transparent, building trust. Such constraints can also minimize the hardware required, especially as AI applications migrate to the operational edge, where efficiency, size, and weight are all crucial. Engineered effectively, some AI applications at the edge may not even require additional hardware to support logistic regression, linear regression, or other standard ML models. Intel can help you find the most efficient solution to your challenge.

## Fostering the next generation of AI

The Intel® AI Builders program is an enterprise ecosystem of industry-leading independent software vendors (ISVs), system integrators (SIs), original equipment manufacturers (OEMs), and enterprise end users who have a shared mission to accelerate the adoption of AI across Intel platforms.

Intel's long track record of working with next-generation AI startups includes investments of more than \$1 billion, access to technical resources, and even cost-sharing investments to help drive AI adoption. Intel's fit-for-purpose AI hardware and industry-leading software solutions span use cases and implementations, from the edge to the cloud and back, to help turn data into action and bring innovative visions to life. Intel is your partner on every step of the AI journey.



#### Intel® Xeon® Scalable Processors

Hardware-accelerated AI and security capabilities simplify data center AI deployments.



#### Intel<sup>®</sup> Core<sup>™</sup> Processors

More cores, threads, memory, and connectivity enable Intel architecturebased data science workstations and the intelligent edge.



### Intel<sup>®</sup> Movidius<sup>™</sup> VPUs

Highly parallel programmable compute accelerates data flow for neural network and AI vision use cases.



### Intel® GPUs

Intel® Iris® X<sup>e</sup> architecture integrated into select CPUs and future discrete GPUs are purpose-built for AI.

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and Goya Purpose-built AI processors drive DL performance and efficiency in the data

Habana® Gaudi®

center and cloud.



#### Built-in Accelerators in Intel Xeon Scalable Processors Boost Performance

Learn how AI acceleration on Intel Xeon Scalable Processors boosts performance for the entire AI pipeline.



Intel technologies may require enabled hardware, software or service activation. No product or component can be absolutely secure. Your costs and results may vary.

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