Building a workstation geared to data science efforts requires understanding the core tasks performed by data scientists.

A properly configured laptop, powered by an Intel Core processor, can accomplish this kind of work. A mobile workstation can do even more when the datasets aren't too large.

Once the AI solution ingredients are tested and validated, the final phase of the AI solution development is the hand-off to the production engineering team for model training and deployment.

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

© Intel Corporation. Intel, the Intel logo, and other Intel marks are trademarks of Intel Corporation or its subsidiaries. Other names and brands may be claimed as the property of others.

Planning and Conceptualizing

Tasks in this phase take up a very large portion of the development effort.

Workstations tailored to tasks key to data scientists can accelerate operations and streamline workflows. This includes data exploration, extract, transform, and load (ETL) operations; model evaluation; and visualization tasks.

In the earliest phase of AI solution development, large datasets must often be ingested and added to the workflow. These can range in size from hundreds of gigabytes to multiple terabytes.

To maximize memory capabilities, substitute an Intel Xeon Gold 6240L processor and Intel Optane Persistent Memory 200 Series modules.

Recommended top-tier workstation: Single-socket Intel Xeon Gold 6144 processor, 3.0 GHz, 16 cores/32 threads, 32 GB RAM, 2 TB SSD.

Recommended mid-tier workstation: Single-socket Intel Xeon W 2295 processor, 3.0 GHz, 18 cores/36 threads, 512 GB RAM, 2 TB SSD.

Cloud computing and GPU architectures don’t effectively handle core tasks, including memory capacity, data locality, and low-latency data handling, which are critical to efficient workflows.

A top-tier workstation can handle the most demanding applications and require an expansive memory span.

Recommended top-tier workstation: Dual-socket Intel Xeon Gold 6144 processor, 3.0 GHz, 16 cores/32 threads, 1 TB RAM, 2 TB SSD.

Recommended mid-tier workstation: Dual-socket Intel Xeon Gold 6144 processor, 3.0 GHz, 16 cores/32 threads, 32 GB RAM, 2 TB SSD.

To discover ways to improve the AI journey for customers, visit builders.intel.com/ai.