Reading: Summary and Highlights: Introduction to Vector Databases and Chroma DB

Congratulations! You have completed this lesson. At this point in the course, you know:

- That vector databases simplify data storage, organization, and retrieval of complex data types, including images, likes, sounds, text files, pattern data, map data, genomic information, and others
- That you can use vector databases for analysis tasks that group items, classify items, and suggest relationships among items
- That vector databases, an integral part of machine learning, and for data in diverse domains, offer high performance and scalability
- That vector databases store data as mathematical objects defined by size and direction
- That vector databases use distributed computing, indexing, and parallel processing techniques to quickly manage big datasets and process queries
- That a vector is an array of numerical values relating to different features or data attributes
- That vector-based database types include in-memory, disk-based, distributed, graph-based, and time-based databases
- That vector-based databases, speed performance for recommendation systems, social network analysis, knowledge graphs, graph analysis, and other complex tasks
- That dedicated vector databases use data structures, reversed indexes, product quantization, and locality-sensitive hashing (LSH) that provides scalability, delivers speed, and enhanced customization
- That popular database vector database vendors include FAISS, Annoy, and Milvus
- That databases that support vector search are either regular database systems or data processing frameworks that let you store data as BLOBs, arrays, or user-defined types
- That notable vendors that support vector search include SingleStore with its support for IBM watsonx.ai, Elasticsearch, PostgreSQL, MySQL, RedisAI, Apache MongoDB, and Apache