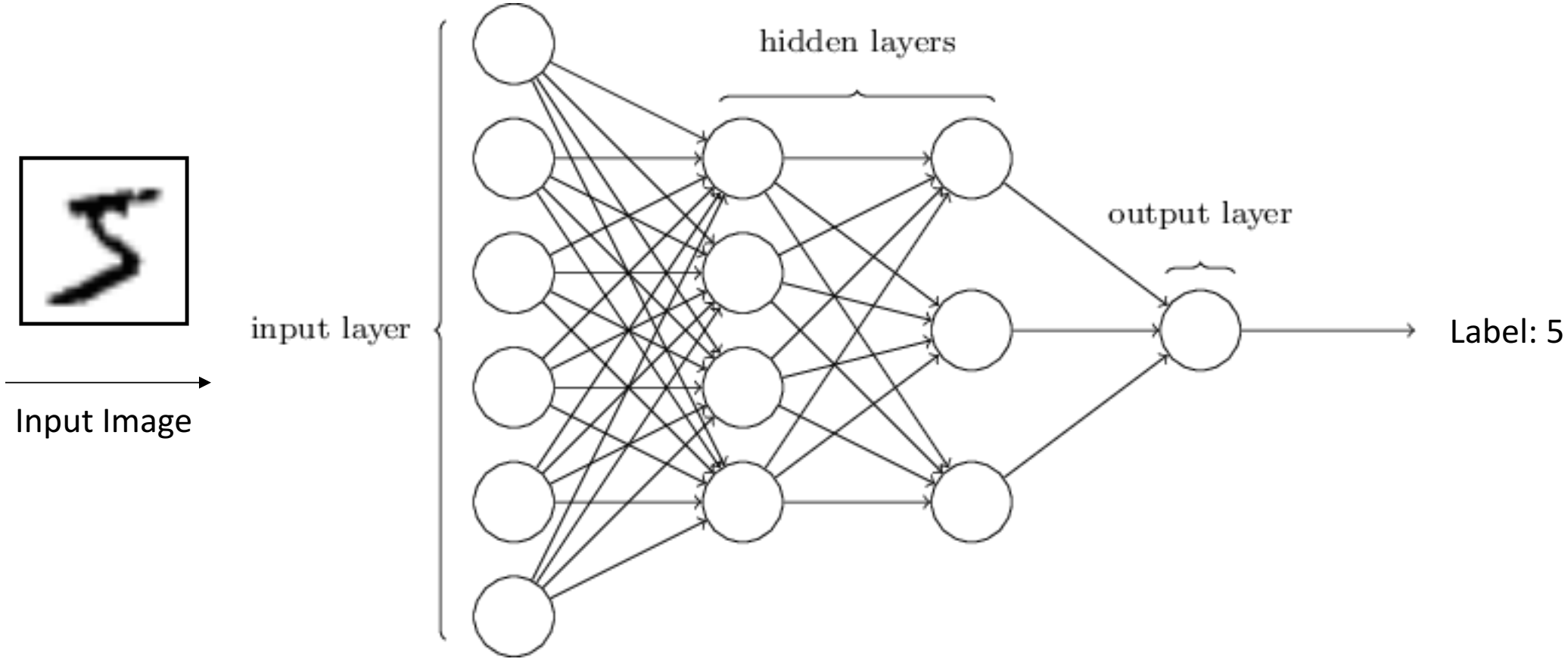
TensorFlow vs. Spark

Example: MLP model on MNIST

- MNIST is a simple computer vision dataset. It consists of images of handwritten digits like these:

- It also includes labels for each image, telling us which digit it is. For example, the labels for the above images are 5, 0, 4, and 1.
- We will run the same Multiplayer Perceptron model on Spark and TensorFlow side by side

Multilayer Perceptron model



Comparison

	Distributed version of TensorFlow	Spark
Purpose	Specific for deep learning algorithms	General-use data processing (SQL, ML algorithms…)
The level of distribution	Graph level	RDD level
Asynchronous training	✓	✘
Support parameter-server & worker structure	✓	✘
Support input data shuffle and batch	✓	✘
Subgraph execution	✓	✘