

# What Is Machine Learning and its Tools?

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Machine learning is a sub-area of Artificial Intelligence(AI). Machine learning applications learn from experience just like humans, without direct programming. Machine learning is used when making programs and algorithms are not possible. It is used in Search engine, data mining, spam detection, character recognition. Here are various machine learning tools.

## **Popular tools used for Machine learning**

### **1) Shogun**

Shogun is the oldest tool for machine learning. But now it is going through a lot of development by a team of expert programmers. It was Created by SoerenSonnenburg and Gunnar Raetsch in 1999 and was written in C++. This tool provides algorithms and data structures for all the problems of machine DevStudiois not at all restricted to the working in C++. It can be used in many languages such as C++, Octave, Python, Java, Ruby, R, Matlab.

It includes various features like regression, pre-processing, visualization, model selection strategies, one-time classification, multi-class classification. It even supports many other machine learning libraries like LibLinear, LibOCAS, VowpalWabbit, SVMLight, Tapkee, SLEP, LibSVM, GPML, libqp and much more.

### **2) Apache Mahout**

Under the Apache license, Mahout library delivers scalable machine learning tools. It is an open source project which is completely free. Apache Mahout is created on Apache Hadoop. Mahout provides tools to find certain patterns in big data sets after big data is stored on Hadoop Distributed File system (HDFS). IT provides various features like various algorithms like H2O, Apache, Scala + Apache Spark, Flink. It provides a vector mat environment for experimentation with R-like syntax.<sup>[1][2]</sup><sub>[SEP]</sub>

### **3) Scikit-Learn**

Python is easy to adopt programming language. People use it for science, maths, statistics. Scikit-Learn leverages Python's breadth by building on top of Python packages. It is an efficient tool for data analyzing

and even data mining. Scikit-learning is easily accessible to everyone. It is an open source and is available under BSD license. It is developed by the team of professional developers and machine learning experts. It is built on SciPy, matplotlib, NumPy.

#### **4) Apache Spark MLlib**

Apache Spark MLlib is a scalable machine learning library. MLlib includes clustering, dimensionality, regressing, collaborative filtering, decision trees, higher level pipeline APIs. Apache Spark MLlib is considered as a distributed machine learning framework. It is developed on the top of the Spark Core. It is nine times faster than the disk-based implementation. It is widely used open source project which focuses on making machine learning easy.

#### **5) TensorFlow**

Google's tensor flow is a machine learning library. It is now an open source framework as earlier it was developed to build machine learning into its own system. Tensor flow is the most flexible library as it lets you write your own libraries. It uses C++ and Python languages. Tensor flow is very powerful as it replaced google's previous technologies for developing AI. TensorFlow is used for various projects such as Google photos, Speech recognition, search, and Gmail.