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MACHINE LEARNING

To understand what machine learning is, we need to define the term “artificial neural network”. An Artificial Neural Network (ANN) is an information processing paradigm that is inspired by the way biological nervous systems, such as the brain, process information. The key element of this paradigm is the novel structure of the information processing system. It is composed of a large number of highly interconnected processing elements (neurons) working in unison to solve specific problems. ANNs, like people, learn by example. An ANN is configured for a specific application, such as pattern recognition or data classification, through a learning process. Learning in biological systems involves adjustments to the synaptic connections that exist between the neurons. This is true of ANNs as well.

The first artificial neuron was produced in 1943 by the neurophysiologist Warren McCulloch and the logician Walter Pitts. But the technology available at that time did not allow them to do too much. And the first algorithm of machine learning was opened in 1949 by Canadian [psychologist](#) Donald Olding Hebb. So this technology is not very old as you see.

So, machine learning is the field of study that gives computers the capability to learn without being explicitly programmed. The basic premise of machine learning is to build algorithms that can receive input data and use [statistical analysis](#) to predict an output while updating outputs as new data becomes available. It is one of the most exciting technologies that one would have ever come across.

Machine learning is an extremely useful technology. We can use it in all spheres of our life. In education we can use it to check handwriting by a computer. Let's take, for example, external independent evaluation in maths, when computer checks handwritten answers. It is also used to study the autopilots of autos, artificial intelligence and different robotic areas. Activities, where machine learning is used, improve their performance in many times. But in Ukraine we can learn this technology only with the help of online courses or in specialized schools. And it is strange, because we have many vacancies connected with machine learning in Ukraine.

So, the field of machine learning is of great importance, because it is the technology of the future! Without it we will lag behind the external IT labor market. Because machine learning is taught by the best educational institutions abroad, such as Carnegie Mellon University (Pittsburgh, PA), Massachusetts Institute of Technology “MIT” (Cambridge, MA), California Institute of Technology (Pasadena, CA) and others. When we start learning it in Ukrainian institutions more hard, we will have a significant improvement of the economy and new foreign investments for our IT field.

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