

MODERN APPLICATION OF NEURAL PROCESSING UNITS

A neural processor or a neural processing unit (NPU) is a microprocessor that specializes in the acceleration of machine learning algorithms, typically by operating on predictive models such as artificial neural networks (ANNs) or random forests (RFs).

NPUs sometimes go by similar names such as a tensor processing unit (TPU), neural network processor (NNP) and intelligence processing unit (IPU) as well as vision processing unit (VPU) and graph processing unit (GPU).

Many areas of industries and science have found application of NPUs.

In Autonomous vehicles Nvidia has targeted their Drive PX-series boards at this space.

Military robots and agricultural robots, for example pesticide-free weed control. Industrial robots, increasing the range of tasks that can be automated, by adding adaptability to variable situations.

In mobile phones industry Qualcomm targeted their Zeroth platform for voice controlling. Huawei and Apple introduced NPU technology for improving photography and user experience. With this technology phones will just be working much more smoothly and it will be due to hardware accelerated artificial intelligence working behind the scenes. It might happen due to natural language processing deep learning models that predict and recognize word choice and intention for text entry keyboards, for personalized news aggregators, for map navigation and real-time translation.

In navigation systems the Movidius Myriad 2 has been demonstrated successfully guiding autonomous drones. Furthermore, this processor can be found in millions of devices on the market today and continues to be utilized for some of the most ambitious Artificial Intelligence, vision and imaging applications where both performance and low power consumption are needed.

In Health care area NPU is used to assist with diagnoses, medical data and image processing

In Search engines NPU increase the energy efficiency of data centers and ability to use increasingly advanced queries.

To sum up, there are many applications of neural processing units. Their introducing in the modern science, medicine, industries and routine life will make our future closer.