NEUROSEED

Simple project description
version 1.0

Machine learning (ML) is a field of computer science that gives computers the ability to learn without being explicitly programmed. These ML models are very useful when there is no possibility to implement standard algorithms. For example, computer vision. Image recognition is a very hard process. Artificial neural networks must be trained just like a human: "This is a tree, and this is a car". But man is able to use several images for training unlike neural networks that required sometimes millions items. Popularity to machine learning came just recently. This was facilitated by the existence and development of Big Data technologies and a sufficient amount of data for training. In addition, there were cloud computing that allowed to process Big Data in less time.

Modern technologies give the ability to increase efficiency for routine jobs automation and business-process that don't require creative approach. For example, quality control of parts on an assembly line, splitting the client database into typical groups, searching for objective dependencies in datasets that can not be obtained by other methods, sorting agricultural products, recognizing fingerprints, and much more.

Turns out that the ML algorithms are universal and not specific to any particular sphere of the economy or business.

Business uses ML algorithms for (Statista.com):
- Asset Management in the Securities Market
- Big Data analytics
- Risk Management
- Cybersecurity
- Sales system optimization
- Credit history analysis
- Optimization of pricing policy
- Algorithmic trading on the securities market
- Forecasting Sales
- Marketing data analysis and customer segmentation

The industries that most often use ML algorithms (Forbes.com):
- B2B-consultants
- Industrial production
- Telecommunications
- Power Engineering
- Financial and insurance business
- Education
- Health care
- Retail and Wholesale
- Transport

To popularize Machine Learning, additional problem is to be solved: to develop a user-friendly interface. It should not be overloaded with various mathematical options, on the contrary - it allows to work with Artificial intelligence to a wide range of users, regardless of the education and level of computer skills.

Training neural networks is still long and expensive endeavor. At the same time business processes in different companies are similar. Therefore, it is rational to reuse the already trained neural network. But there is a problem of mistrust in the solutions and data on which the training took place. No one can be sure that he received exactly the dataset and the neural network that was used by others.

The NeuroSeed platform has a user-friendly interface for developing ML models and eliminates the problem of mistrust of datasets received for training and already trained ML models through blockchain. Thus, it is possible to organize transparent and reliable exchange of datasets and ML models between the customer, the provider of cloud computing and data storage, the owner of Big Data, validators.

In addition, NeuroSeed allows the integration of already trained ML models. If the platform presents individual neural networks capable to recognize people, cars, trees, road signs and markings on the image it will be possible to develop an autonomous system for vehicles after merging these networks. Merging already trained networks is economically more profitable than training a new network with great functionality but from the beginning.

One of NeuroSeed platform's main advantages is a special financial reward system for all platform participants. All platform interaction are held in utility tokens NSD and controlled by the platform that guarantees payment for all participants on the

platform. Suppliers providing computing power and data storage, Big Data owners can sell their services and datasets needed for training neural networks. The developers of ML models use a platform to create and train neural networks. Metadata about datasets and already trained ML models are stored in a blockchain. This ensures the invariability of the acquired solution. Thus, trained networks can be used by other developers as an integral part of new solutions. Customers can use already trained ML models for application in their business through API-calls. For each API-call the developer receives payments. All ML models and datasets on the platform are validated by experts who also receive payments. Validators are companies and specialists in the domain field of functions that perform a neural network.

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