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**Abstract**

The article is devoted to the method creating problem for checked indicators estimate to automate the detection of anomalous data in the subject area of production audit, the transformations of which are represented by a mappings sequence. The data transformations model of production audit with returnable waste and semi-products based on a deep simple recurrent network with losses is offered. That allows to scale effectively the DLSRN model (to increase LSRN number without increase in training time of all DLSRN) in case of complications production. It allows to automate the process of the analysis and to use this model for intellectual technology of data analysis creation in the system of audit. The method of parametrical identification of a deep simple recurrent network with losses (DLSRN) reached further development by to use of the proposed one-step training of simple recurrent networks with losses (LSRN). This composition forms DLSRN and provides a representation of neural network weights in the form of raw materials shares, semi-products, finished goods, non-returnable and returnable waste. That allows increasing estimation accuracy by the model of data transformations of production audit with semi-products and returnable waste. It allows using the received estimates for forming the recommended solutions in audit DSS. The algorithm of one-step training of a simple recurrent network with losses (LSRN) due using of CUDA parallel processing technology of information is improved. That allows acceleration determination of values of LSRN neural network weights.

**Keywords**

- audit data
- data mapping
- a deep simple recurrent neural network with losses
- intellectual technology
- anomaly
- CUDA technology

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