

**DEVELOPING CONVEYOR LINE MODELS USING NEURAL NETWORK****Pihnastyi M.O., Khodusov V. D.***V. N. Karazin Kharkiv National University,  
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The report examined the modeling of the main pipeline [1] using a neural network. In the course of the work, a model was built to analyze the parameters of the conveyor line and train the neural network. The choice of neural network architecture was determined by the condition of effective training with minimal consumption of temporary resources (Fig. 1). Each section is characterized by a set of parameters  $x_j$ . The use of a neural network made it possible to simulate a transport conveyor and predict the state of the streaming parameters of the system. For training the neural network, a set of data generated on the basis of the analytical model was used [2]. For a model using a neural network, the accuracy of predicting the output parameters of the transport system  $y_k$  and the time required to train the neural network were estimated.

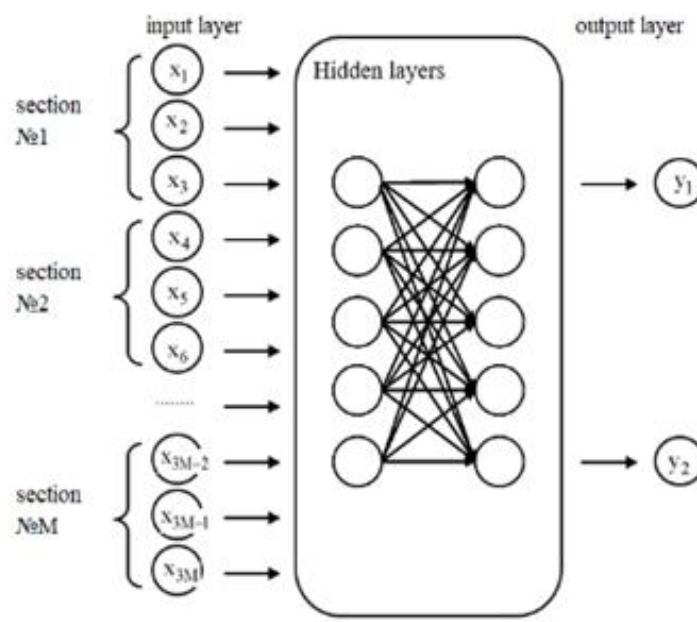


Fig. Programming artificial intelligence systems for modeling conveyor-type transport systems.

**References:**

1. Pihnastyi, O., Khodusov, V.: Model of conveyor with the regulable speed. Bulletin of the South Ural State University. Ser.Mathematical Modelling, Programming and Computer Software 10, .64–77 (2017). <https://doi.org/10.14529/mmp170407>.
2. Pihnastyi, O., Khodusov, V.: Calculation of the parameters of the composite conveyor line with a constant speed of movement of subjects of labour . Scientific bulletin of National Mining University.4 (166), 138–146 (2018). <https://doi.org/10.29202/nvngu/2018-4/18>.