

Multilayer Perceptron

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September 2022

Introduction

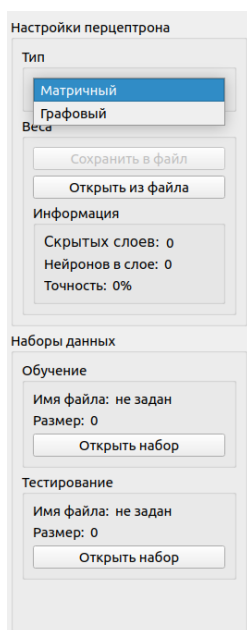
Multilayer Perceptron (MLP) is a software designed to form and train neural network models to classify handwritten Latin letters.

Features and capabilities

MLP app has three main tabs:

- Testing: test trained neural network on a dataset
- Training: train neural network on a dataset
- Images: classify individual images (loaded or drawn)

In the settings panel user can change perceptron type, load and save current perceptron, and choose datasets for training and testing.



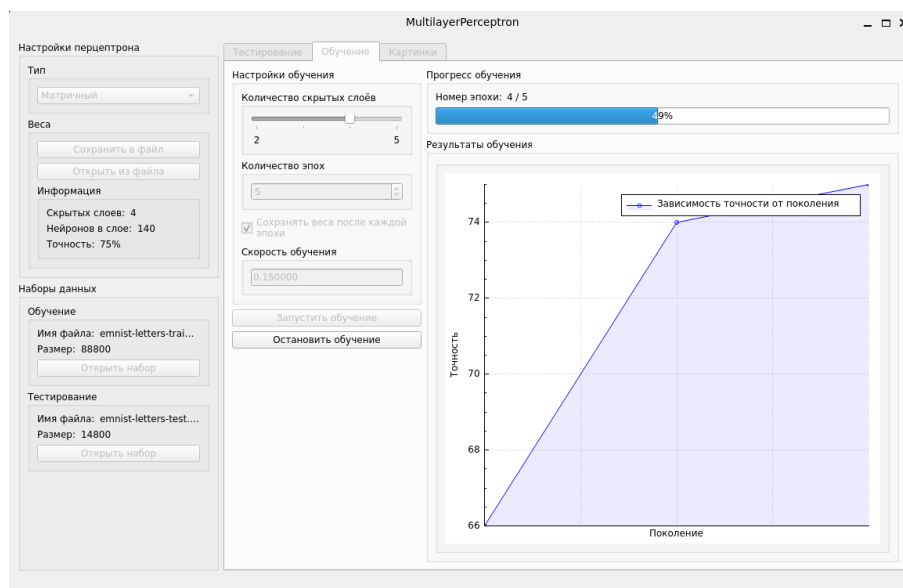
Training

To start using the program, user must load existing perceptron in the settings panel or train a new one.

To train new perceptron, user should:

1. Open the training tab

2. Choose perceptrons type and dataset for testing in settings panel
3. Choose amount of hidden layers 2-5, amount of epochs, and testing speed in training tab
4. Press "Begin training" and wait

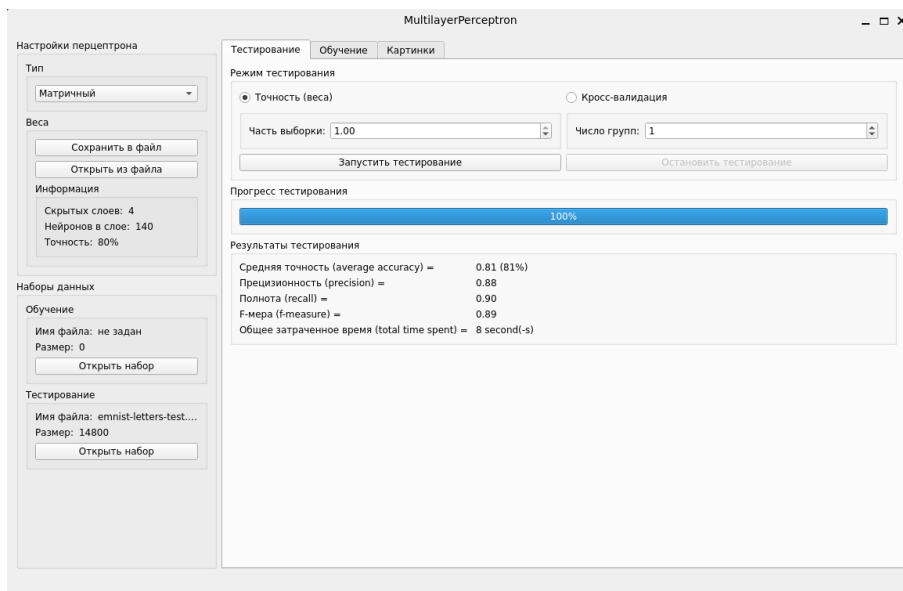


After each epoch, information on this epochs error control values will be displayed.

Testing

After loading or training new perceptron, user can test in on the dataset in testing tab, or classify individual messages in images tab.

When testing is done an average accuracy, precision, recall, f-measure and total time spent on the experiment will be displayed on the screen. Testing can be done with or without cross-validation. If cross-validation is on, results will be displayed for the best group.



Images can be loaded or drawn by user.

