Use RNNs for landslide susceptibility mapping

**Requirements**

Python 2/3

TensorFlow 1.3 above

numpy

scikit-learn

scipy

keras

pandas

**Datas**

Training data：train\_data Test data：test\_data

The training set：510\*16 (There are 255 labels for 1 and 255 labels for 0 data)

The test set： 218\*16 (There are 109 labels for 1 and 109 labels for 0 data)

**Models**

Run RNN.py to train the model.

Run LSTM.py to train the model.

Run GRU.py to train the model.

Open the SRU folder，Run SRU1.py to train the model.

**Process**

First, we should configure the runtime environment, then run RNN.py, LSTM.py, GRU.py or SRU1.py. In the following, we input the training data in “Input-traindata”and the test data in “Input-testdata”. The parameters of learn rate, batch\_size, epoch, dropout, optimizer, loss function are set to the appropriate values, and finally the training model can be started.

**Results**

test\_auc outputs AUC value

recall outputs Recall value

accuracy outputs ACC value

f1\_score outputs F-measure value

matthew\_corrcoef outputs MCC value