**Release Note**

Data: 2016/12/21 Version: 1.0

**Release Content**

1. Source code path:

Src/main/java/machinelearning/

1. Target:

Target/cnn-1.0.jar

1. Tool that converts model data from python object format to json format:

tools/pythonobj\_to\_json.py

1. Configuration path:

conf/\*

The configuration file used for configuring the model path and type.

1. Model file:

Data/model/python/\*

python model for multi label and single label of attcnn and basic cnn, they are used for generating json model.

Data/model/json/\*

json model for multi label and single label of attcnn and basic cnn.

1. Test file path:

Data/test/\*

Test data for multi label and single label classification.

**Project environment**

1. IntelliJ IDEA Community Edition 2016.2.4(64)
2. Maven
3. JDK 1.8

**Compiler Process**

1. Import the project to IntelliJ IDEA
2. Build - Build Project, will compile the source code.
3. In Maven Project panel, double clicking lifecycle-package will generate the jar package.

**API**

1. CnnHandler()  
   The constructor of CNN function.
2. void initialize(String configFilename) throws IOException

Initialize the CNN model based on the configuration file input

configFilename: the path of configuration.

1. Map<String, Double> analyze(List<String> inputWords)

Prediction of domain-goal of one input sentence

Input: List of words for one sentence

Output: Map (Key: domain-goal name, Value: Score). `null` will be returned if the inputWords is invalid, ex: null, No IV(in-vocabulary) words in the sentence.

1. void terminate()

Finalization process

**Using method**

1. Using pythonobj\_to\_json.py to transform the model data from python object format to json format, ex:

python pythonobj\_to\_json.py nigel.multilbl.attcnn.model

the converted json model *nigel.multilbl.attcnn.model.json* will be generated in the same folder

1. Copy the cnn-1.0.jar to the directory where you want
2. Add the cnn-1.0.jar to the dependency library
3. Import the package interface: import machinelearning.CnnHandler;
4. Call the interface:
   1. CnnHandler()
   2. void initialize(String configFilename) throws IOException
   3. Map<String, Double> analyze(List<String> inputWords)
   4. void terminate()

**Test program**

1. Enter the folder of program
2. Update the model file path in ./conf/cnn\_configuration.txt base on your environment
3. Run command:

java -jar ./target/cnn-1.0.jar -c ./conf/cnn\_configuration.txt –m softmax -t ./data/test/Testing\_for\_SingleLabel.txt

-c: Configuration file path

-m: mode type (softmax for single classification, topk for mutiply label classification)

-t: test file

Output：

GroundTruth, Predict {(DomainGoal, value),..}

Average memory used:

Average time used:

Test count:

Errors: (Errors is a statistic of the number of sentences that cannot be processed by this program, which has nothing to do with Accuracy)

Accuracy: