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Introduction

This tutorial shows how to use Weka (build **feature vector**, **train** a classifier, **test** a classifier, **use** a classifier) directly from Java code. It is not intended to replace the Explorer/Experimenter GUI that offer the visualization and engineering tools required to set up and debug machine learning experiments. Weka's automation is useful to embed a classifier in a larger program and to create a training/testing loop that can be seen as a regression test for machine learning capabilities.

Step 1: Express the problem with features

This step corresponds to the engineering task needed to

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Let's put aii our

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Each feature is

contained in a weka.core.Attribute object.

Here, we have two numeric features, one nominal feature (blue, gray, black) and a nominal class (positive, negative).

// Declare two num Attribute Attribute1 Attribute Attribute2

// Declare a nomina FastVector fvNomir fvNominalVal.addE fvNominalVal.addE fvNominalVal.addE Attribute Attribute3

// Declare the class
FastVector fvClassV
fvClassVal.addElem
fvClassVal.addElem
Attribute ClassAttri

// Declare the featu FastVector fvWekaA fvWekaAttributes.a fvWekaAttributes.a fvWekaAttributes.a fvWekaAttributes.a

Step 2: Train a Classifier

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training

set

of

instances

and

2)

choosing

a

classifier.

Let's

first

create

an

empty

training

set

(weka.core.Instances).

We

named

the

relation

"Rel".

The

attribute

prototype

is

declared

using

the

vector

from

step

1.

We

give

an

initial

set

第3页 共10页

★ It's time for us to say fare	well: Regretfully, we've made the tough decision to close
TTIMOPACCO. I IIIG OUT WITY, a	nd What will happen, here (http://blog.wikispaces.com) also
	declare
	that
	the
	class
	attribute
	is
	the
	fourth
	one
	in
	the
	vector
	(see
	step
	1)
	// II // is
	Now,
	let's
	fill
	the
	training
	set
	with
	one
	instance
	(weka.core.Instance):
	/. It

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Finally,

Choose

a

classifier

(weka.classifiers.Classifier)

and

create

the

model.

Let's,

for

example,

create

а

naive

Bayes

classifier

(weka.classifiers.bayes.NaiveBayes)

// C c

Step

3:

Test

the

classifier

Now

that

we

create

and

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| Sign In (https://www.wikispaces.com/site/sighiningoto=https%3A%2F%2Fweka.wikispaces.com%2FProgrammatic%2BUse) ● x It's time for us to say farewell ssiffe gretfully, we've made the tough decision to close Wikispaces. Find out why, and what will happen, here (http://blog.wikispaces.com) test it. To do S0, we need an evaluation module (weka.classifiers.Evaluation) to which we feed a testing set (see section 2, since the testing set is built like the training set). E

evaluation

The

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of statistics:

S

//

d

Step

4:

use

the

classifier

For

real

world

applications,

the

actual

use

of

the

classifier

is

the

ultimate

goal.

Here's

the

simplest

way

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we've

built

an

instance

(named

iUse)

as

explained

in

step

2:

/.

iι

/

/,

(

Conclusion

and

More

Information

This

tutorial

shows

the

basic

way

to

train,

test

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in

Weka.

The

code

shown

was

not

compiled

nor

tested

since

it

requires

being

part

of

a

real

classification

problem.

For

complete

and

compilable

examples,

please

check

Balie,

an

open

source

NLP

software

that

uses

Weka

for

language

identification

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Links

Weka

API

(book

version /developer

version)

• Balie

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