

Version Space in Weka

- You have a special version of weka that implements version space for conjunctive concepts
- You can find it in I:\aia\WekaEV
- An examples file is processed in the following way (from the command line):

```
java weka.classifiers.vspace.ConjunctiveVersionSpace  
-t file -T file -v -P
```

- file has to be a file in .arff format
- The parameter -t is the training examples file
- The parameter -T is the test examples file
- Both can be the same file

Create an examples file

- You can create an example file for the movies domain using the file `movies.arff` that you can download from the laboratory web page
- Create files to learn the following concepts aprender los conceptos:
 - 1 American movies in color
 - 2 French dramatic short movies in color
- Create files with different orders dor the examples to see how the exploration of the version space changes
- Put a positive example as the first example, then all the negatives and then the rest of the positivesos

French dramatic short movies in color

Minimal set of examples to learn the concept:

yes, France, yes, drama, short, positive

no, France, yes, drama, short, positive

no, USA, yes, drama, short, negative

no, France, no, drama, short, negative

no, France, yes, comedy, short, negative

no, France, yes, drama, long, negative

French dramatic short movies in color

Trace of the learning process

Initializing VersionSpace

S = [[#, #, #, #, #]]

G = [[?, ?, ?, ?, ?]]

Instance: yes, France, yes, drama, short, positive

S = [[yes, France, yes, drama, short]]

G = [[?, ?, ?, ?, ?]]

Instance: no, France, yes, drama, short, positive

S = [[?, France, yes, drama, short]]

G = [[?, ?, ?, ?, ?]]

Instance: no, USA, yes, drama, short, negative

S = [[?, France, yes, drama, short]]

G = [[?, France, ?, ?, ?]]

Instance: no, France, no, drama, short, negative

S = [[?, France, yes, drama, short]]

G = [[?, France, yes, ?, ?]]

Instance: no, France, yes, comedy, short, negative

S = [[?, France, yes, drama, short]]

G = [[?, France, yes, drama, ?]]

Instance: no, France, yes, drama, long, negative

S = [[?, France, yes, drama, short]]

G = [[?, France, yes, drama, short]]

French dramatic short movies in color

Set of examples that makes longer the learning process

yes, France, yes, drama, short, positive

yes, USA, yes, drama, long, negative

yes, USA, yes, accion, short, negative

yes, France, no, comedy, short, negative

no, France, yes, drama, long, negative

no, France, no, drama, short, negative

no, USA, yes, drama, short, negative

no, France, yes, comedy, short, negative

no, France, yes, drama, short, positive

French dramatic short movies in color

Traza del aprendizaje

Initializing VersionSpace

```
S = [[#, #, #, #, #]]
```

```
G = [[?, ?, ?, ?, ?]]
```

Instance: yes,France,yes,drama,short,positive

```
S = [[yes,France,yes,drama,short]]
```

```
G = [[?, ?, ?, ?, ?]]
```

Instance: yes,USA,yes,drama,long,negative

```
S = [[yes,France,yes,drama,short]]
```

```
G = [[?,France,?, ?, ?], [?, ?, ?, ?, short]]
```

Instance: yes,USA,yes,accion,short,negative

```
S = [[yes,France,yes,drama,short]]
```

```
G = [[?,France,?, ?, ?], [?, ?, ?, drama, short]]
```

Instance: yes,France,no,comedy,short,negative

```
S = [[yes,France,yes,drama,short]]
```

```
G = [[?, ?, ?, drama, short], [?,France,yes, ?, ?], [?,France, ?, drama, ?]]
```

French dramatic short movies in color

Traza del aprendizaje

Instance: no,France,yes,drama,long,negative

S = [[yes,France,yes,drama,short]]

G = [[?,?,?,drama,short], [yes,France,yes,?,?],
[?,France,yes,?,short], [yes,France,?,drama,?]]

Instance: no,France,no,drama,short,negative

S = [[yes,France,yes,drama,short]]

G = [[yes,France,yes,?,?], [?,France,yes,?,short], [yes,France,?,drama,?],
[yes,?,?,drama,short], [?,?,yes,drama,short]]

Instance: no,USA,yes,drama,short,negative

S = [[yes,France,yes,drama,short]]

G = [[yes,France,yes,?,?], [?,France,yes,?,short], [yes,France,?,drama,?],
[yes,?,?,drama,short]]

Instance: no,France,yes,comedy,short,negative

S = [[yes,France,yes,drama,short]]

G = [[yes,France,yes,?,?], [yes,France,?,drama,?], [yes,?,?,drama,short],
[?,France,yes,drama,short]]

Instance: no,France,yes,drama,short,positive

S = [[?,France,yes,drama,short]]

G = [[?,France,yes,drama,short]]