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Analysis of Forum Posts Written by Patients and Health Professionals

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\noindent Context: Online health fora are increasingly visited by both patients and health professionals. For online fora visitors, posts written by health professionals may be more interesting since the professionals are able to well explain the problems, the symptoms, correct false affirmations and give useful advices, etc.

\noindent Objective: To automatically distinguish posts written by health professionals from those written by patients.

\noindent Intuition: Use a supervised approach and test the following features with different classification models:

- Vocabulary
- Emotions
- Uncertainty
- Question marks
- Misspellings

\noindent Methods:

- 4000 posts divided equally between patients and health professionals
- Cleaning (quotes, short posts, etc.)
- Annotation (emotions, uncertainty, questions and misspellings)
- Preprocessing (feature selection, slang replacement, spelling correction, etc.)
- Classification (Weka)

\noindent Results: 10-folds cross validation (f-measures)

<table>
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<tr>
<th>Features</th>
<th>Number of features</th>
<th>SVM SMO</th>
<th>Naive Bayes</th>
<th>Random Forest</th>
<th>JRip</th>
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<td>0.906</td>
<td>0.897</td>
</tr>
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</table>

\noindent Acronyms:

- U: Unigrams
- B: Bigrams
- EM: Emotion Markers
- UM: Uncertainty Markers
- MI: Misspellings
- QM: Question Marks