

**Table 8: Selected examples of miss-classified paper titles.**

Paper Title	Conference	Target Class	Top-1	2	3	4	5
A New Algorithm for Optimal Bin Packing	AAAI	AI	ALG	AI	MOD	COLT	DNA
(Im)possibility of Safe Exchange Mechanism Design	AAAI	AI	NET	SC	LG	DB	MD
Performance Issues and Error Analysis in an Open-Domain Question Answering System	ACL	LG	AI	LG	ALG	DC	SC
Active Learning for Statistical Natural Language Parsing	ACL	LG	AI	LG	NN	COLT	ALG
Improving Machine Learning Approaches to Coreference Resolution	ACL	LG	AI	LG	ALG	FM	NN
A language modelling approach to relevance profiling for document browsing	JCDL	LIS	AI	UI	LG	LIS	ALG
Structuring keyword-based queries for web databases	JCDL	LIS	AI	LIS	DB	ALG	ARC
A multilingual, multimodal digital video library system	JCDL	LIS	LG	UI	LIS	ECAD	NET
SOS: Secure Overlay Services	SIGCOMM	NET	SC	NET	MC	OS	DC

  

AI :Artificial Intelligence	DNA :DNA-Based Computing	MOD:Modeling
ALG :Algorithms	ECAD:Electronic Computer Aided Design	NET :Networks
ARC :Architecture	FM :Formal Methods	NN :Neural Network
COLT:Computational Learning Theory	LG :Linguistics	OS :Operating Systems
DB :Databases	LIS :Library and Information Science	SC :Security
DC :Distributed Computing	MC :Mobile Computing	UI :User Interface

**Table 9: Yahoo!’s Computer Science experiment when the corpus size increases. Approach 1.**

Corpus Size	Type	Top-1	2	3	4	5
100	Full Article	.2389	.3785	.6045	.6214	.6779
	Short Document	.5780	.7098	.8034	.8446	.8483
	Text Segment	.4917	.6346	.6942	.7242	.7545
200	Full Article	.5211	.6271	.6723	.6949	.7118
	Short Document	.5780	.6878	.7098	.7499	.8034
	Text Segment	.4850	.6213	.6940	.7242	.7409
400	Full Article	.4794	.5628	.5892	.6202	.6251
	Short Document	.5563	.6632	.6893	.7223	.8011
	Text Segment	.4518	.5890	.6345	.6940	.7043
600	Full Article	.4294	.5198	.5392	.5840	.5875
	Short Document	.5454	.6352	.6731	.7094	.7321
	Text Segment	.4249	.5347	.6345	.6678	.6810
800	Full Article	.4294	.5198	.5392	.5840	.5875
	Short Document	.5450	.6345	.6855	.6921	.6999
	Text Segment	.4219	.5083	.5648	.6047	.6146

be used to create more value-added Web information services. For common human users, *LiveClassifier* also bestows much convenience. No longer troubled by the tedious work of preparing corpora, users may effortlessly construct many classifiers by his/her own preference.

The effectiveness of *LiveClassifier* deserves some remarks. As discussed in the preceding section, downloading un-labelled Web corpora to augment features or to enhance the size of training corpora has been tried in many recent works. However, few have considered the problem of “how” to collect and organize the corpora.

One may entertain the idea that **HCQF** simply depends on the enormous size of Web resource to train the topic-hierarchy, however, this is not the case. Table 9 lists the results of the Computer Science experiment when training corpora increased. It can be observed that the performance *did not* ameliorate with the size of the training corpora, on the contrary, it is the other way around.

A probable reason of this phenomenon is that the lowly-ranked snippets contain much more noise, thus dragging down the performance. Obviously, downloading Web documents indiscriminately does not ensure success in training. The reason that **HCQF** can get better results is rather its exploiting structural information contained in topic hierarchies. We have presented in Section 3 that subtrees of limited depth extracted from Yahoo!’s directory can achieve satisfactory results. We have also proven in Section 3.2 that in different granularities and in diverse domains, **HCQF** can achieve acceptable results. However, designing experiments of larger scale is still desirable.

*LiveClassifier* can be accessed online in the following URL

<http://liveclassifier.iis.sinica.edu.tw/>. Users can create and modify classifiers online.

## 6. REFERENCES

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