Opinion Mining of Spanish Customer Comments with Non-Expert Annotations on Mechanical Turk

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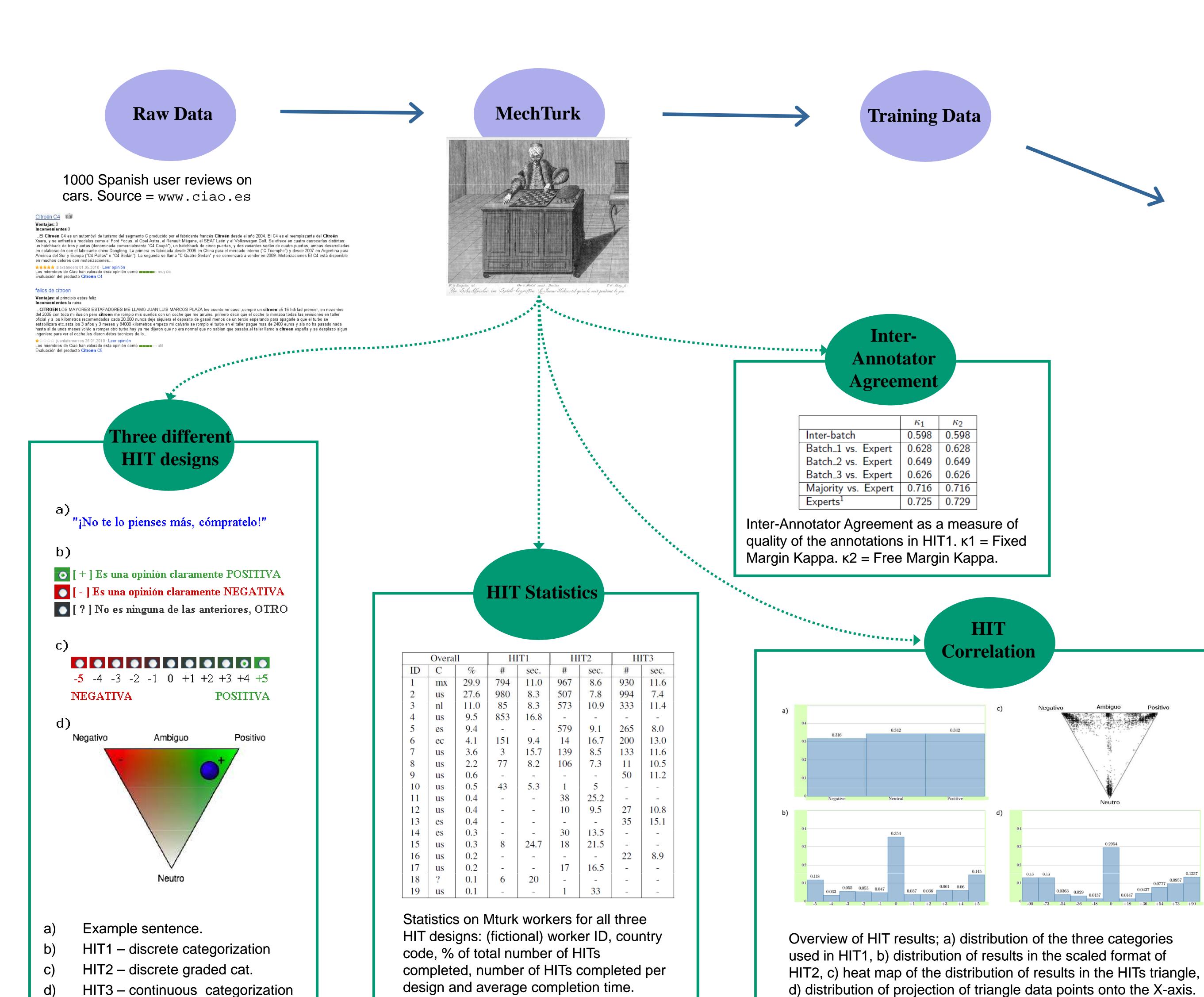
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Opinion

Mining



Four Research Questions:

Spanish Consumer data.

. What is the quality of the MechTurk annotations?

We compare different HIT design strategies by

evaluating the usefulness of resulting MechTurk

annotations to train an Opinion Mining System on

- 2. What is the performance of classifiers trained on the data?
- Language Barriers: is there a large enough worker pool for Spanish?
- Is it cheaper to use Mturk than Expert annotations, and, if so, how much?

Conclusions:

Summary:

- High Inter-Annotator Agreement between MechTurk and Experts.
- 2. MechTurk annotations outperform initial noisy data and produce results on par with Expert annotations.
- 3. After introducing a competence test, getting results for Spanish was easy and rapid.
- . For the task at hand, we saved 65% of an Expert Annotator

Only training data from HIT 1 were used in the experiments. Results on training data from HITS 2 and 3 are forthcoming.

Experiment 1

classifier	baseline	annotated	
positive/not_positive	59.63 (3.04)	69.53 (1.70)	
negative/not_negative	60.09 (2.90)	63.73 (1.60)	
neutral/not_neutral	51.27 (2.49)	62.57 (2.08)	

Binary classification. Mean accuracy over 20 independent simulations (standard deviation in parenthesis) for each classification subtask trained with either the baseline or the annotated data set.

Experiment 2

System	Experts	Batch1	Batch2	Batch3	Majority	All
Winnow	44.2	43.6	40.4	47.6	46.2	50.6
SVM	57.6	53.0	55.4	54.0	57.2	52.8
C45	42.2	33.6	42.0	41.2	41.6	45.0
Maxent	59.2	55.8	57.6	54.0	57.6	58.6

Multiclass classification. Accuracy figures of four different classifiers (Winnow, SVM, C45 and Maxent) trained on six different data sets.

Some more information about us:

www.barcelonamedia.org

Barcelona Media is

- An R&D Center in Barcelona, Spain.
- Interested in Applied Research and Commercial Projects.
- Currently focusing on Opinion Mining.

*This Researcher has been partially funded by a Juan de la Cierva Research Grant from the Spanish Ministry of Science and Innovation, co-funded by the European Social Fund.