Detecting Opinions and their Opinion Targets in NTCIR R-8

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Task Scope
Subjectivity Judgment
- Deciding whether a sentence conveys an opinion
  ex) Bush said we need to think about Saddam Hussein using al-Qaeda to do his dirty work to not leave fingerprints behind. ➔ Opinionated sentence

Opinion Target Identification
- Resolving opinion targets within opinionated sentence
  ex) A U.S. official said he was pleased that Mangku Pastika was doing painstaking work.

Subjectivity Judgment
Hypothesis
- Opinionated sentences contain opinion clue words (e.g., happy, criticize)

Lexical Patterns

| Main verb | "inside", "claim", "criticize", "think", "believe", "advise" |
| Auxiliary verb | "would", "could", "should", "might", "will", "may" |
| Special phrase | "at least", "unfortunately", "consequently" |

Subjectivity Scoring
Subjective Score (SentiWordNet)

\[ SubjScr(t) = |PosScr(t) - NegScr(t)| \]

Appraisal Score (Appraisal Verbs)

\[ AppScr(t) = 0.3 \] (empirically set)

Opinion Score

\[ OpiScr(t) = SubjScr(t) + AppScr(t) \]

\[ OpiScr(Sent) = \sum_{t \in Sent} OpiScr(t) \]

Experiments

- 20 topics (138 docs / 6,165 sentences)

<table>
<thead>
<tr>
<th>task</th>
<th>Precision</th>
<th>Recall</th>
<th>F-measure</th>
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</thead>
<tbody>
<tr>
<td>Opinion Extraction</td>
<td>0.1888</td>
<td>0.6526</td>
<td>0.2943</td>
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<tr>
<td>Opinion Target Identification</td>
<td>0.231</td>
<td>0.346</td>
<td>0.277</td>
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Future Works
- Filtering weak opinion clue words
- Opinion target boundary detection
- Anaphor and synonym problem