Event Representations for Automated Story Generation with Deep Neural Nets

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INTRODUCTION

Automated story generation: automatically selecting a sequence of events, actions, or words that can be told as a story
Open story generation: automatically generating a story about any domain without a priori manual knowledge engineering

We convert sentences into events (a unit of story featuring a world state change) of the structure:

\[
\text{[subject, verb, direct object, modifier]}
\]

\*The modifier can be a propositional object, an indirect object, a causal complement, or an unclassified dependency on the verb.

Using this basic format as our template, we experimented on:
1. different event representations that could be manipulated in order to yield the best results for predicting the subsequent event (event-to-event).
2. ways of translating the event representation back into a reasonable English sentence (event-to-sentence).

END-TO-END EXAMPLES

<table>
<thead>
<tr>
<th>Experiment</th>
<th>Input</th>
<th>Extracted Event(s)</th>
<th>Generated Next Event(s)</th>
<th>Generated Next Sentence</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Generalized Events &amp; Generalized Sentence</td>
<td>He reaches out to Remus Lupin, a Defence Against the Dark Arts teacher who is eventually revealed to be a werewolf.</td>
<td>[male.n.02, get-13.5.1, 0, &lt;CHAR&gt;0] [ORGANIZATION, say-37.7-1, monster.n.01, 0]</td>
<td>[monster.n.01, amuse-31.1, sarge, 0]</td>
<td>When monster.n.01 nemesis.n.01 describes who finally realizes male.n.02 can not, dangerous entity.n.01 male.n.02 is released from penal institution.n.01</td>
</tr>
<tr>
<td>Generalized Event &amp; Generalized S+P Sentence</td>
<td>John unwittingly unleashes an insidious pox that rapidly spreads across the Caribbean.</td>
<td>&lt;CHAR&gt;0, disassemble-23.3, contagious_disease.n.01, 0]</td>
<td>[male.n.02, spatial_configuration-47.6, adopt-93]</td>
<td>male.n.02 crumples and is about to be sheath.n.02.</td>
</tr>
<tr>
<td>Original Words Event &amp; S+P Sentence</td>
<td>He thinks he’s on a top secret spying mission.</td>
<td>[he, think, 0, 0]</td>
<td>[she, come, know, truth]</td>
<td>She has come to the truth.</td>
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</tbody>
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