Discourse-Sentiment Alignment Tool (DSAT)
Intro

Discourse Parsing:

- Crucial task within the area of NLP
- Enhances many downstream applications
  - Sentiment analysis
  - Summarization
  - Question answering

Goal:

- Reveal the underlying structure of coherent text (a discourse)
  - Complete documents
  - Multiple sentences
Intro

Normally:

- Human-annotated gold-standard discourse trees

In my research:

- Use large datasets without gold-standard trees
- Automatically infer discourse trees
- Using distant supervision from sentiment data
Problem:
- Fully automated generation
- No human-in-the-loop
- Existing tools limited to comparisons against gold-standard

Objective:
- Create InfoVis system, which generates insights into the alignment of discourse trees and sentiment
Data

Yelp ‘13 review corpus

- ~336,000 reviews
- 1-5 star rating per review
[What happened to Dunkin' Donuts?] (1)
[Holy crap does this place suck.] (2)
[The donuts are stale and taste weirdly like chemicals.] (3)
[I can not recommend anything] (4)
[except that you drive five minutes to Bosa Donuts on McDowell.] (5)
[Great donuts] (6)
[and locally owned.] (7)
[Support local.] (8)
The Visualization
Stage 1
The Visualization
Stage 2

Document List

Discourse - Sentiment Alignment Tree

Document #2625

[i love my new mac.]
[it is so much better than the windows laptop i own before.]
[my family packed me off to the apple store a month ago;
[and now i have a macbook.]
[the sales associate helping me pick out the perfect mac]
[was good enough, even with two perfectly good (except for the windows os) pcs at home]
[.]
[i mostly got a new laptop because i hated to have those windows vista issues.]
[the os is slow and full of bugs.]
[loading times are forever.]
[and the response times in a mess.]
[at the store, the sales persons were nice, friendly, patient, highly knowledgeable.]
[they are teaching me so many cool features.]
[end nice applications that i can do on my mac.]
[i like the translator.]
[i do some business in mexico.]
[- my spanish is limited.]
[so this month the translator has already been helping me.]

The Visualization
Stage 3 (Now)

Demo