

Character-based Understanding

Topics:

Protagonist Emotion, Sentiment State

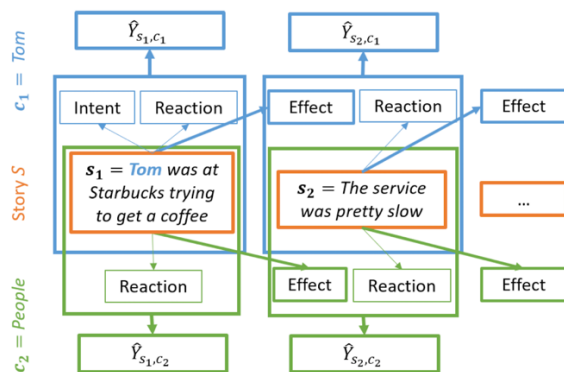
Main Character Pair Relationship Structure

(Arxiv 21) CHARET: Character-centered Approach to Emotion Tracking in Stories - Carvalho et al.

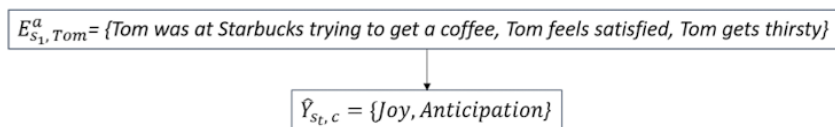
Make **Commonsense** inference -> classify **emotional state** of character

Plutchik basic emotions:

surprise, disgust, sadness, joy, anger, fear, trust, anticipation



Inferred Unstated Events (through COMET)



$$E_{s_t, c_i}^x = \{s_t, xIntent, xReact, xEffect\}. \quad E_{s_t, c_i}^o = \{s_t, oReact, oEffect\}.$$

Left: If character is actor, Right: If character is object

Dataset: StoryCommonsense (Character mental state annotated)

(*SEM 20) "where is this relationship going?": Understanding Relationship Trajectories in Narrative Text - You et al.

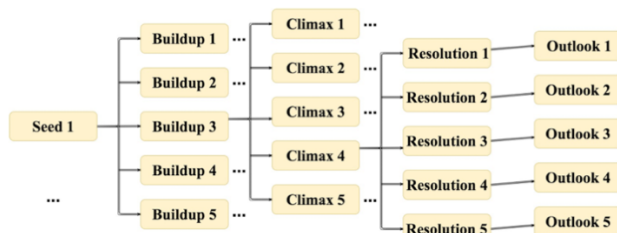
2 Tasks: Outlook (4th sentence), Resolution (5th sentence) Prediction

Social Narrative Tree (5 Stage - Freytag's Pyramid)

Seed -> Build Up -> Climax -> [Resolution -> Outlook]

2 Protagonists

각 단계 조합당 가능한 몇개 AMT 사람이 직접 가능한 문장 작성



NLTK Extract, Lemmatize, Remove Stop Words

Predicate Connecting Protagonist in *Seed* Stage

Active: asked, invited / **Passive:** receive / **Neutral:** realized, were, went to

(SIGDIAL 17) Modelling Protagonist Goals and Desires in First-Person Narrative - Rahimtorohi et al.

DesireDB: First- person Narratives with annotations for desires & fulfillment
(Blogs)

People did seem pleased to see me but all I [**wanted to**] do was talk to a particular friend.

I'm off this weekend and had really [**hoped to**] get out and dance.

We [**decided to**] just go for a walk and look at all the sunflowers in the neighborhood.

I [**couldn't wait to**] get out of our cheap and somewhat charming hotel and show James a little bit of Paris.

We drove for just over an hour and [**aimed to**] get to Trinity beach to set up for the night.

She called the pastor, and he had time, too, so, we [**arranged to**] meet Saturday at 9am.

Even though my deadline wasn't until 4 p.m., I [**needed to**] write the story as quickly as possible.

FrameNet - select frames that likely contains lexical units specifying desires
(Desiring, Needing, Purpose, Request)

Select only verbal lexical units -> verbs likely to introduce goals

Data-Instance:

Prior-Context: ConnectiCon!!! Ya baby, we did go this year as planned! Though this year we weren't in the artist colony, so I didn't see much point in posting about it before hand.

Desire-Expression-Sentence: This year we [**wanted to**] be part of the main crowd.

Post-Context: We wanted to get in on all the events and panels that you cant attend when watching over a table. And this year we wanted to cosplay! My hubby and I decided to dress up like aperture Science test subjects from the PC game portal. It was a good and original choice, as we both ended up being the only portal related people in the con (unless there were others who came late in the evening we didn't see) It was loads of fun and we got a surprising amount of attention.

Annotations:

Fulfillment-Label: Fulfilled

Fulfillment-Agreement-Score: 3

Evidence: Though this year we weren't in the artist colony. We wanted to get in on all the events and panels that you cant attend when watching over a table.

Evidence-Overlap-Score: 3

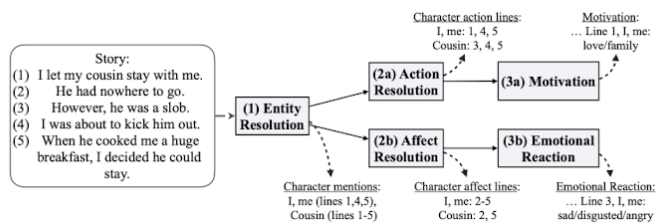
(ACL 17) Modeling Naive Psychology of Characters in Simple Commonsense Stories - Rashkin et al. (Yejin Choi)

Annotated ROC -> **Story Commonsense Dataset**

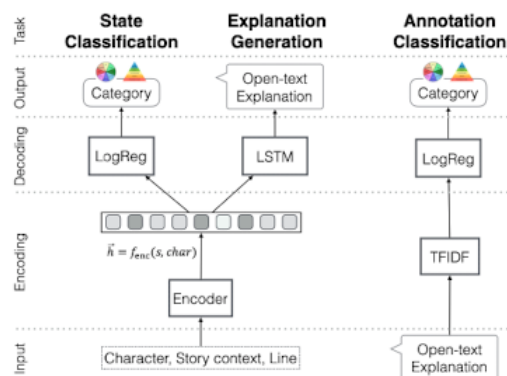
Explain Naive psychology of story characters as fully-specified chains of mental states

Motivations (Pre-condition) : Maslow (5 Coarse) -> Reiss (19 Fine)

Emotional Reactions (Post-condition) : Plutchik Wheel of emotions (8)



3 Tasks



State Classification: Categorize psychological states given line (+preceding context)

Binary label for each Maslow, Reiss, Plutchik

Annotation Classification: Predict label given **emotional reaction** or **motivation explanation**

Explanation Generation: Generate free text state representation (emotional or motivation)

(AAAI 17) Unsupervised Learning of Evolving Relationships Between Literary Characters - Chaturvedi et al.

Unsupervised, Character-pair 단위

Relationship을 Latent Variable Sequence로 표현

Character Pair 가 함께 나타나는 문장을 선택 -> 4가지 word set 피쳐 이용

Actions / Surrogate Actions (Consider for being implicit) / Lexical / Frame-Semantic

위 4개 set을 union후 모든 단어 임베딩 avg를 sentence embedding으로 이용

Sentence: After confronting Maria, Jim furiously asked her to end her friendship.
Surrogate Actions: confronting **Lexical:** furiously asked
Actions: asked **Semantic:** friendship, 'personal relationships'

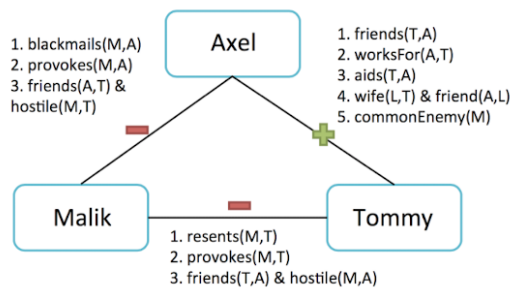
English novel-summary dataset (**SparkNotes**)

BookNLP (Bamman 14) Pipeline 으로 처리 (major character 판단까지)

같이 5문장 이상 나타나는 이야기 고름

(AAAI 16) Inferring Interpersonal Relations in Narrative Summaries - Srivastava et al.

Inferring Cooperative / Adversarial Relationships (Structured Prediction) - Relationship Binary Label



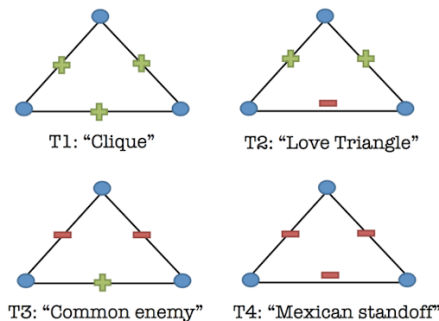
Use indirect structural cues: 서로 직접적 관계 뿐만 아니라 남과의 관계도 고려

Assumption: Relation is **fixed**

Relationship Structure 예측

Text-based Features

Structural Inferences Features: Triadic Structural Features (# of config in assignment?)



Narrative Type 고려 -> Clustering (ex. Mexican Standoffs -- revenge/gangster, Family-relation -- children story)

Incorporate description of narrative text to infer regularities (**content**-based)

Features

Text-based Cues

Polarity of Interaction between character mentions (**lexical, phrasal-level polarity**)

Semantic connotations of actions (does to other / share as agent,patient / act as team)

Character co-occurrence in **semantic frames** that evokes +,-,or social relationship

Character **Similarity** (similar **adjectives / adverbs**)

Existence of Familial Relations

Structural Inferences

of config in assignment (?)

Entity-tracking with Stanford CoreNLP

NER, Dependency Parse

CMU Movie Summary Corpus

Annotate Directed Relationship: [Hostile, Adversarial], Neutral, [Cooperative, Friendly]

Hostile, Adversarial: 42%

Cooperative & Friendly: 58%