Measuring Character-based Story Similarity by Analyzing Movie Scripts

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Outline

- Motivation
- Story representation
  - Characters
  - Interactions among characters
- Story clustering for recommendation (ongoing)
- Conclusion

Motivation

- Recommendation systems
  - Content-based, User-based, and Collaborative Filtering-based approaches
  - Movies, Musics, and so on

Genre

User ratings

Director/
Actors

IMDb

Find Movies, TV shows, Celebrities and more... All

Movies, TV & Showtimes | Celebs, Events & Photos | News & Community | Watchlist

FULL CAST AND CREW | TRIVIA | USER REVIEWS | IMDbPro | MORE | SHARE

Titanic (1997)

15 | 3h 14m | Drama, Romance | 20 February 1998 (South Korea)

7.8/10
887,304

Rate This

2:11 | Trailer 18 VIDEOS | 173 IMAGES

On Disc
at Amazon

A seventeen-year-old aristocrat falls in love with a kind but poor artist aboard the luxurious, ill-fated R.M.S. Titanic.

Director: James Cameron
Writer: James Cameron
Stars: Leonardo DiCaprio, Kate Winslet, Billy Zane | See full cast & crew »

75 Metascore
From metacritic.com

Reviews
2,587 user | 320 critic

Popularity
138 (9)

Titanic (1997)

Edit

Plot

Storyline?

Showing all 7 items

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Summaries

84 years later, a 100 year-old woman named Rose DeWitt Bukater tells the story to her granddaughter Lizzy Calvert, Brock Lovett, Lewis Bodine, Bobby Buell and Anatoly Mikailavich on the Keldysh about her life set in April 10th 1912, on a ship called Titanic when young Rose boards the departing ship with the upper-class passengers and her mother, Ruth DeWitt Bukater, and her fiancé, Caledon Hockley. Meanwhile, a drifter and artist named Jack Dawson and his best friend Fabrizio De Rossi win third-class tickets to the ship in a game. And she explains the whole story from departure until the death of Titanic on its first and last voyage April 15th, 1912 at 2:20 in the morning.

—*Anthony Pereyra*

After winning a trip on the RMS Titanic during a dockside card game, American Jack Dawson spots the society girl Rose DeWitt Bukater who is on her way to Philadelphia to marry her rich snob fiancé Caledon Hockley. Rose feels helplessly trapped by her situation and makes her way to the aft deck and thinks of suicide until she is rescued by Jack. Cal is therefore obliged to invite Jack to dine at their first-class table where he suffers through the slights of his snobbish hosts. In return, he spirits Rose off to third-class for an evening of dancing, giving her the time of her life. Deciding to forsake her intended future all together, Rose asks Jack, who has made his living making sketches on the streets of Paris, to draw her in the nude wearing the invaluable blue diamond Cal has given her. Cal finds out and has Jack locked away. Soon afterwards, the ship hits an iceberg and Rose must find Jack while both must run from Cal even as the ship sinks deeper into the freezing water.

—*hEmRaJ (gavin_coolhgr@hotmail.com)*

Story representation

- Character
- “All films are about nothing - nothing but characters” - The way Hollywood tells it: Story , and style in modern movies, Bordwell, D., 2006, Univ of California Press.
- Questions:
  - How to discover main characters
  - How to discover story of the movie

Character-based story representation

- Role of characters
- Interactions of characters (Multimodal)
  - Co-occurrence in frame (or scene)
  - Proximity in frame (or scene)
  - Dialogue

Characters in “Star Wars”

Driver Characters

PRORAGONIST (Luke Skywalker)

GUARDIAN (Obi Wan Kenobi) CONTAGONIST (Darth Vader)

ANTAGONIST (The Empire)

Passenger Character

SIDEKICK (R2D3 + C3PO)

EMOTION (Chewbacca) REASON (Leia)

SKEPTIC (Han Solo)

Character-based story representation

- Role of characters
- Interactions of characters (Multimodal)
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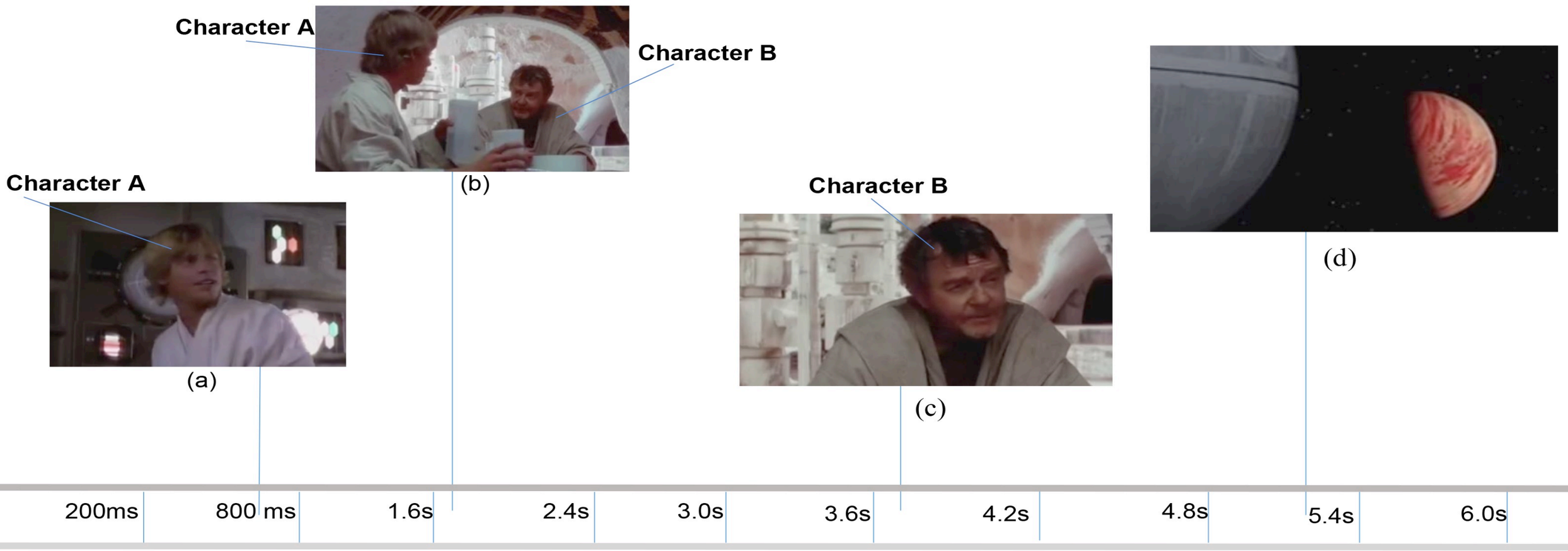
  - Proximity in frame (or scene)
  - Dialogue

Audio-Visual co-occurrence



Dialogue

INT. COFFEE SHOP - DAY : Scene title

Mia works, photos of Hollywood icons on the wall behind her, as --

CUSTOMER #1 : Name of a speaker
This doesn't taste like almond milk.: Dialogue

MIA
Don't worry, it is. I know sometimes it --

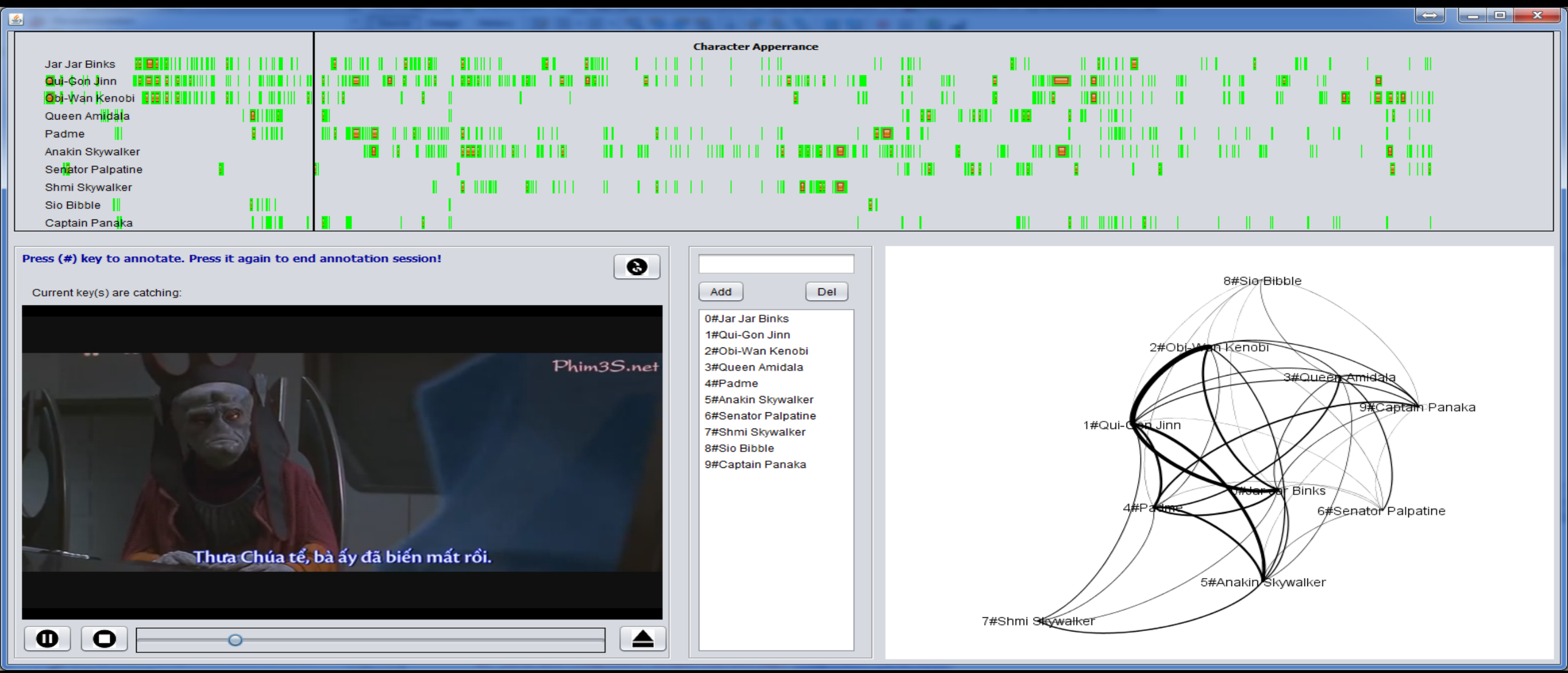
CUSTOMER #1
Can I see the carton?

Mia hands it over. The Customer looks. : Description of backgrounds or characters' action

CUSTOMER #1 (CONT'D)
I'll have a black coffee.

Mia gets the coffee. Quickly sneaks a look at a script hidden underneath her counter. The same one we saw in her car...

CoCharNet: an Integrated framework for character networks



CoCharNet: an Integrated framework for character networks

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Story clustering for recommendation (ongoing)

- Genre distribution (vector space model)
    - Mapping to 22 Genre vector
- Dynamic network clustering
    - Understanding how the character network changes over time

Conclusion

- Characters (and character networks) as the main media for the stories
- Story-based recommendation for providing more explanation
- Open issues (future work)
  - Data collection and evaluation
  - Visualization
  - Need to improve deep learning engine

Thank you