

We have discussed about the project: I have explained the 3 papers I have read the most recent paper was Extraction and Analysis of Dynamic Conversational Network From TV Series by Xavier Bost et al. The paper's main contribution was the introduction of narrative smoothing which is dynamic social network of characters extraction method. The narrative smoothing takes advantage of plot properties. The other contribution was the introduction of heuristic rules addressing four possible utterance subsequences. Those are . surrounded speech turn 2. starting and ending speech turns 3. local disambiguation 4. Temporal Proximity.

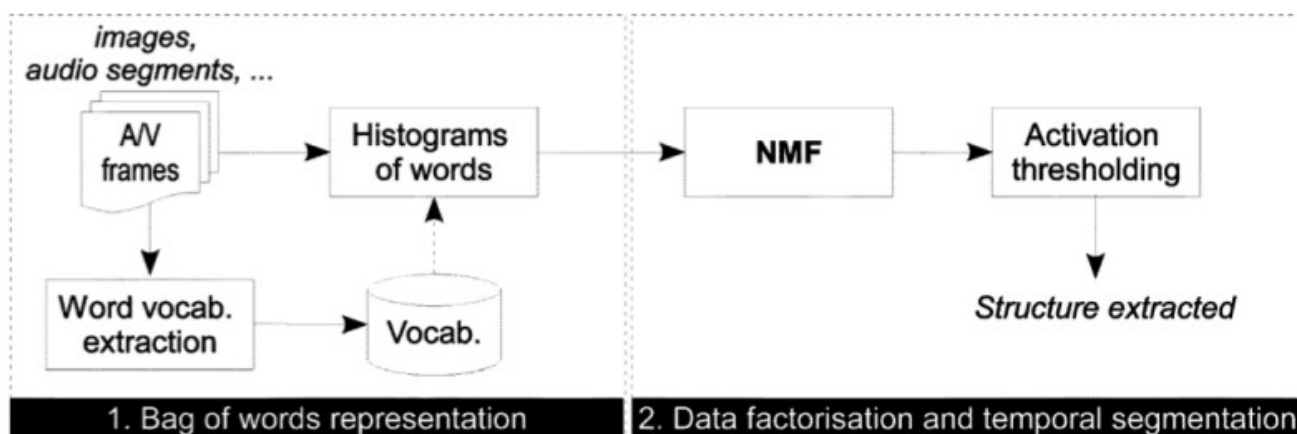
The second recent paper is **The Emotional Arcs of Stories Are Dominated by Six Basic shapes** by Andrew J. Reagan et al. They found a set of six core trajectories which form the building blocks of complex narratives. they have applied optimization, linear decomposition, supervised learning, and unsupervised learning. To generate the emotional arcs they analyzed the sentiment of 10,000 word windows which slide through the next and they rated it using their Hedonometer with the labMT for their corpus they used the freely available Project Gutenberg data set.

For the decomposition of the stories into emotional arcs, they used Singular Value Decomposition (SVD) which is also a PCA.

$$A = U \sum V^T = W V^T$$

They used Hierarchical clustering of stories which proceeds by minimizing variance between clusters of books. They have also used another unsupervised machine learning technique which is Kohonen's Self-Organizing Map (SOP 13x13) which works by finding the most similar emotional arc in random collection of arcs. Using those methods they have demonstrated that there is strong support for six core emotional arcs. Consideration of the emotional arcs for a given story is important for the success of that story.

The third paper was **Smooth Nonnegative Matrix Factorization for Unsupervised Audiovisual Document Structuring**. The NMF algorithm is applied on histogram of counts to jointly discover latent structuring patterns and their activations in time. NMF employs the kullback-Liebler divergence as cost function. The smoothness constraint is solved by majorization-minimization technique. Their approach takes a file (audio/video data) as time sequence of frames and then each data frame is transformed to a "bag of words".



Things to for the next week.

- Play with the data
- presentation of my master thesis on Tuesday 23
- read some papers.