Short Talks about Final Projects

Adam Meyers
New York University
Outline

• Preliminary Schedule of Talks
• Structure of Talks
• Sample Slides
Schedule of Talks

• Student Talks presented for about 2 classes
  – Dec 5 and Dec 7
  – Preliminary Schedule on next 2 slides
• Organized by approximate topic
  – Talks with related topics are grouped together
• Please make schedule changes by email
  – If project is miscellaneous — email me your topic
    • I would like to label and put similar topics together
  – If you need a different day, email me, but there is limited room for changes.
• Timing different for multi & single person projects
  – Single person: 3 minutes plus 1 minute for questions
  – Multi person: 4 minutes plus 1 minute for questions
  – Extra time allowed for time overages and transitions
Please Send Me Your Slides

• Please send me your slides
  – pdf format preferred
  – please send at least one day before your talk
  – this saves time and makes the talks go smoother in general

• You can send me updated versions later

• You can use your own laptop if you prefer
Talks on Tuesday, Dec 5
Total Time: 48 minutes

• Sentiment (32 minutes)
  – N. Yao, J. Choi, R. Nunes, A. Madgavkar, H. Zhang (4+1 min)
  – B. Buchthal, Q Chen, L. Lai, L. Lu (4+1 min)
  – J. Fernandes, A. Frattellone, L. Hernandez (4+1 min)
  – V. Baker and M. Woodford (4+1 min)
  – E. Law (3+1 min)
  – A. Inan (3+1 min)
  – J. Yang (3+1 min)

• Question Answering (4 minutes)
  – M. Sharif (3+1 min)

• Image Search (4 minutes)
  – K. Huang (3+1 min)

• Deep Learning (4 minutes)
  – V. Wang (3+1 min)

• Text Cleaning (4 minutes)
  – T. Wanielista
Talks on Thursday Dec 7
Total Time: 51 minutes

- Summarization (13 minutes)
  - E. Lin, C. Smith, A. Dobroshynskyi (4+1 min)
  - J. Zheng (3+1 min)
  - K. Sameshima (3+1 min)
- Automatic Essay Grading (5 minutes)
  - A. Ashutosh, G. Yalcin (4+1 min)
- Document Structure (4 minutes)
  - K. Nittolo (3+1 min)
- Ambiguity Resolution (4 minutes)
  - J. Goe (3+1 min)
- POS Tagging (4 minutes)
  - M. Zhou (3+1 min)
- Machine Translation (8 minutes)
  - K. Cui (3+1 min)
  - O. Awofiranye (3+1 min)
- Relation Extraction (4 minutes)
  - A. Brigham (3+1 min)
- Sequence Labeling (4 minutes)
  - D. Foley (3+1 min)
- Document Classification (5 minutes)
  - P. Jayaram and M. Schachere (4+1 min)
Suggested Structure of a 3 minute talk

• Estimate rate of talk: 1 slide per minute.
  – So a 3 minute talk should be about 3 slides in addition to any slides you don't discuss

• Possible structure:
  – Slide 1: title and author(s) – Don't discuss
  – Slide 2: problem statement
  – Slide 3: your approach: methods, resources used (lexicons, corpora, programs incorporated), features of data used, algorithms implemented, evaluation
  – Slide 4: One line conclusion
  – Slide 5: References – Don't discuss
Possible Structure for Multi Person Project Talk

- 4 minutes or 1 Minute Per Slide
- Sample Structure
  - Slide 1: title and author(s) – Don't discuss
  - Slide 2: problem statement
  - Slide 3: your approach: methods, resources used (lexicons, corpora, programs incorporated), features of data used, algorithms implemented
  - Slide 4: Roles of Each Participant
  - Slide 5: One line conclusion
  - Slide 6: References – Don't discuss
Other Factors

• Talks in the same topic areas
  – There may be redundancies between talks. You could discuss this and have some of these redundancies be factored out and presented by one person (1 or 2 minutes could be added to the schedule for this). I can provide email addresses if this helps.
    • Project mergers are permitted
    • Other types of coordination are permitted, e.g., a shared evaluation for different methods
  – You could learn from the other talks about resources that will help you with your own project.

• You don't have time to give a detailed account of your approach

• The best talks will communicate the problem and approach to solving it in a conversational manner

• Imagine you explaining this to a non-technical people with short-attention spans: people at a party, relatives, etc.
  – But perhaps a little more technical than that

• Your final project may change a lot from the one you present as a talk, e.g., you may end up incorporating comments from other students or answering their concerns
Sample 3+1 Talk

• Next 5 slides represent a hypothetical talk based on some of my MT slides
Sentence Alignment Using Gale Shapey Stable Marriage Algorithm

Adam Meyers
New York University
Sentence Alignment Problem

- Bitexts = Source Language file and sentence by sentence translation
- Sentences may be in different orders
- In order to “train” statistical systems, we need to know which source language sentence corresponds to which target language sentence
My Approach

• Score matches by overlap in a bilingual lexicon (supplement with automatic acquisition of additional entries) using Dice

\[
Dice = \frac{2 \times |\text{Match}(S, T)|}{|S| + |T|}
\]

• Compare scores of neighboring sentences in 10 X 10 array
  – Choose best match for first sentence by Gale Shapley algorithm, then advance 10 sentence window

• Gale Shapley maximizes choices between 2 sets of competing items, where there are optimal choices, e.g., like a arranging marriages between potential sets of mates
Evaluation and Conclusion

- Corpus: Spanish/English Microsoft Help Text
- Evaluation Metrics: Precision, Recall, F-measure
- Manually aligned Microsoft Help bitext for development
  - 1350 English and 1341 Spanish Sentences
- Manually aligned bitext used for testing
  - 184 English and 181 Spanish sentences
- We achieved F-measure of 95%
Selected References