Language Understanding Systems

Final Project Requirements

Spoken Language Understanding:
Conditional Random Fields

- Experiment with different feature sets
  - Tokens
  - Lemmas
  - Part-of-speech tags
  - Ngrams
- Experiment with different training parameters
  - Window size
  - Cut-off parameter

Spoken Language Understanding:
Neural Networks

- Experiment with different network types
  - Elman
  - Jordan
- Experiment with different training parameters
  - window
  - learning rate
  - hidden layer size
  - embedding dimension
  - etc. (see lab slides)

Spoken Language Understanding:
Submission

- Report (use template)
  - Description of data (analysis)
  - Description of systems
  - Description of experiments
  - Compare performances to FST-based SLU (project 1)
  - Compare performances with respect to parameters
  - Interpretation of results
- Code (self-contained)
  - readme on how to run
- Do not include readme information into the report

Spoken Dialog System:
with SLU & Error Recovery Strategies

- Implement Error Recovery
  - Make use of ASR/SLU/Classifier confidence scores
    - combine ASR & SLU confidences
  - Set thresholds for accept/reject/verify
    - & justify them
  - Design prompts for accept/reject/verify conditions
    - & "grammars" to accept answers
- Evaluate Error Recovery
  - e.g. correct intent + slots with & without error recovery

Spoken Dialog System:
Submission

- Report (use template)
  - Description of the system
  - Description of approach to error recovery
    - how confidence scores are used
    - how thresholds are set
- Code (self-contained)
  - readme on how to run
- Video clips demonstrating system features
- Do not include readme information into the report