**Literature Review Paper and Slides due at the time of the presentation**

Week 15 Tuesday 4 people; Week 15 Thursday 4 people; Week 16 5 people

**20 points for presentation with PPT (15 minutes)**

**30 points for the paper (must have been proof read by**

**the writing center or equivalent)**

**Normally literature review section is for Phase I and Phase II. But for this class, we are able to complete only the Phase I parts.**

**Both a hard copy and a soft copy (EMAIL) are due to me.**

* This paper should be ONE COLUMN, Times (Roman), 12 pt. Single spaced.
* The Title is Literature Review
* Follow it with : Broad area: \_\_\_\_\_\_ Sub-area: \_\_\_\_\_\_\_\_\_\_\_\_\_
* Follow it with your name.
* Make sure you cite the papers you have reviewed using [Author Year]
* Must end the paper with References, formatted correctly as in the IEEE template.

**Section 1.Conclusion from Phase I**

Then, for each Phase I paper you read, you should “translate your filled template” to write about:

* + Overall description of their project/system(short)
  + Weaknesses / Remaining issues
  + It will be one paragraph per template.

**Section 2.Summary and Your Goal**

Summarize all the contributions and weaknesses so that they lead naturally to your goal. State the goal of your project. Be clear as to what your end product will be (Algorithm? System?) You do not have to have your approach/solution yet.

**Section 3. Phase II Literature Review Plans**

What sort of papers will you read for Phase II to come up with an approach/solution for your project?

**Section 4. Rough Proof Plan**

A short paragraph explaining how you intend to prove your approach in the end.

* mathematical analysis of your algorithm vs. Others?
* implement and test a system?
* measure efficiency (how?)

**Examples:**

The following is in a template form, but you should place it

into a paragraph form.

**Cover: Sub-field: Sorting algorithms**

**Section 1:**

Merge Sort is a divide and conquer algorithm that recursively

divides the list into two sub-lists and then combines the sub-lists

into a sorted list.

Contribution: O(nlogn) for all cases because recursion is used

Weakness: But space inefficient

Heap Sport creates a heap structure where parents are always smaller

than the children. Heap Sort removes the root and re-heapifies the tree.

Contribution: O(nlogn) because a binary tree is used

Weakness: But need to pre-process to create a heap structure

**Section 2:** Although there are O(nlogn) sorting algorithms, they are space inefficient if recursion is used and/or requires pre-processing if trees are used. I will develop a fast sorting algorithm that will not use pre-processing or extra space.

**Section 3:** I will read about recursive sorting algorithms to see if there are ideas I can borrow.

**Section 4:** After developing an algorithm, I will do mathematical analysis of the time complexity and space complexity.

**Cover: Sub-field: Machine Translation from Japanese to English**

**Section 1:**

System X translates Japanese instruction booklets into English.

Contribution: Translates sentences with misspelled words

Weakness: Does not handle syntax errors

System Y translates Japanese essays into English.

Contribution: Interacts with the user to process ungrammatical sentences

Weakness: No automatic error handling

**Section 2:** Although there are MT systems which handle ungrammatical sentences by interacting with the user, there are no systems which can handle ungrammatical sentence without interactions with the user. Nothing seems to have been attempted so far. I will develop a Japanese to English translation system that will handle ungrammatical sentences without interactions with the user.

**Section 3:** I will have to read more papers on Japanese natural language processing techniques to see how they handle ungrammatical sentences. I will have to read papers on how humans translate ungrammatical sentences.

**Section 4:** I will develop a MT system and test it on many actual texts with a variety of grammar errors.

**For the Lit. Review Presentation using PPT:**

* Remind everyone what your research sub-area is
  + and give any background/historical info they need to understand the area.
  + some people might not know the words you are using so introduce them.
* How many Phase I papers did you read?
  + Also, why did you read these papers in particular?
* For some of the Phase I paper you read:
  + summarize the contributions and weaknesses using the template format I used above in examples.
* What is the summary/conclusion of the literature review? What is your research goal?
* What is your plan for Phase II literature review to come up with your approach?
* What is your rough plan for testing or proving your approach?
  + i.e.
    - * mathematical analysis of your algorithm vs. others
      * implement and test a system
      * measure efficiency (how?)

**Style:**

* Use few sentences per slide
* Use bulleted lists instead of paragraphs
* Use a clear title for each slide

**The audience will have to ask questions as needed to find out just how well you have done your research and write an evaluation to be submitted at the end of your presentation.**