Final Project

Exercise 1
CSC872
Pattern Analysis and Machine Intelligence

Literature Survey

• Guided literature review
  – Choose a research topic among covered in the course.
  – Find five representative journal/conference articles
  – Review the articles: summarize, critique and improve
  – Write a survey report (Due on Dec 12)
  – Presentation of the report (On Dec 12)

• Provides you a hands-on exercise for your own thesis and publication.

• Read the assignment
Choose Research Topic

- Choose among AI, PR, ML and NN
- Can be a broad topic
  - e.g., Rule-based AI: what is the state-of-the-art?
- Can be very specific
  - e.g., Application of ANN to Microarray Analysis of X
- Consult your instructor upon questions
- **Submit a brief description of your idea and selected papers for review by Oct 24.**

Survey the literature

- Focused online search
  - Find follow-up papers that cite a paper you know.
  - Demo
- SFSU resources to get free PDF copies
  - [http://library.sfsu.edu/](http://library.sfsu.edu/)
    - Find Articles Book+ → Find Articles & More in Databases
      → ComputerScience → Go
  - IEEE Electronic Library
  - ACM Digital Library
  - Google Scholar
  - Pubmed
Review articles

• Read collected articles carefully
• If you do not understand some parts
  – Find citation related to the parts
  – Go to the reference list
  – Find and read the cited papers, and/or
  – Read the textbook chapter on the subject
• Select at least 5 most important articles
• Read them thoroughly with critical mind
  – Not all claims are true
  – Limitations of work is hard to find sometimes
  – Imagine you be a peer-reviewer of this paper!

Questions to keep in your mind

• Paper Critique (You be a Referee):
  – Domain/Goal of study?
  – Technical context of this study?
  – Specific problem/hypothesis addressed?
  – Proposed solution/method/theory?
  – Any prior assumption for the solution (limitation)?
  – Are their experimental design sound?
  – Are their experimental results convincing?
  – How does this compare to others?
  – What advantages when?
  – What disadvantages when?
  – Reason why this solution makes sense or no-sense?
  – Argue against any claims?
  – Any improvements possible? How can I improve it?
**Final Report**

- Follow the SFSU Master’s thesis format.  
  - [http://grad.sfsu.edu/content/current-students/thesis](http://grad.sfsu.edu/content/current-students/thesis)
- Around 18 double-spaced pages  
  - two page introduction, two pages for each paper, four page critique and conclusion, and two page reference list for instance.
- Due on the last lecture day Dec 12

**Report contents**

a) Title and abstract of your report, and your professional affiliation information  
b) Introduction/technical context of a specific research problem you chose  
c) Bibliographic citation information and credibility of the author’s research group of each selected article  
d) Brief summary of proposed methods/contributions by each article  
e) Brief discussion on how they relate to the PAMI research subfields covered in this course  
f) Detailed critique on the work described in the articles  
g) Your logical conclusion(s) based on your above critique  
h) Suggestion of most promising strategies for solving your research problem  
i) Reference list
Final Presentation

• Pechakucha-style short presentation.
  – http://www.pechakucha.org/
  – 20 x 20 or 10 x 30?
• Submit your PPT slides by Dec 10\textsuperscript{th} 10pm
• Order of presentation TBD
• Use visual figures/images/schematics Demo
• Be logical in presentation
  – Follow your report in structure but only cover main things
  – Define terms early
  – Give a concrete and clear conclusion of your study.

Resources

• Literature Review Tutorials
  – Paper
  – Video
  – See them on iLearn