

Homework: Critical Conference Reading

*Assigned: 9/4/2012**Due Date: 9/23/2012*

In this assignment, you will get to use everything we've discussed about finding, reading, and evaluating computer science conference papers. You will identify an interesting area of computer science or engineering, locate and read the proceedings of a recent top conference in this area, select the papers you like best, and defend your choices in writing. This exercise should help you to find out more about an area you might be interested in, to interact with our faculty in that area, and to develop your critical thinking skills. It will also demand that you do some background reading in your area of choice.

1 Pick an Area and a Conference

The following table lists the areas that you may choose for this assignment. For each area, I have listed one or more top conferences, along with a faculty *mentor* who has graciously agreed to help anyone who chooses to read recent proceedings from the specified conference.

Please pick *one* conference from the list. Once you have chosen, **please notify me and your mentor of your choice by email no later than Monday, 9/9**. Earlier is better.

Area	Conference(s)	Mentor
Cyber-Physical Systems	ICCPS	Chenyang Lu
Wireless Sensor Networks	SenSys, IPSN	Chenyang Lu
Real-Time Systems	RTSS, RTAS	Chris Gill
Computer Graphics	SIGGRAPH, EuroGraphics	Tao Ju
Parallel Computing	SPAA, PPOPP	Kunal Agrawal
Algorithms	SODA	Kunal Agrawal
Computational Biology	RECOMB, ISMB	Jeremy Buhler or Weixiong Zhang
Computational Biology	PSB	Jeremy Buhler
Computer Networks and Distributed Systems	SIGCOMM	Raj Jain or Roch Guérin
Computer Networks and Distributed Systems	CoNEXT	Roch Guérin
Network Economics	NetEcon (+W-PIN), WINE	Roch Guérin
Human-Computer Interaction	CHI	Caitlin Kelleher
Economics and Computation	EC	Sanmay Das
Multi-Agent Systems	AAMAS	Sanmay Das
Artificial Intelligence	AAAI, IJCAI	Sanmay Das
Computer Vision	ICCV, CVPR	Yasutaka Furukawa or Robert Pless

If you want to study an area that is not on this list, you must identify a faculty mentor and have that person (1) confirm his/her willingness to advise you for this assignment and (2) name a top conference for you to study. I must receive email from the mentor with this information no later than 9/9.

2 Read a Recent Proceedings

All of the conferences listed above should have proceedings that can be accessed online. You may have to do some Google detective work to locate them. Some conferences are ACM or IEEE, while others are independent. Start by finding the conference's homepage to help identify the sponsoring organization and publisher for the proceedings. If you are stumped, ask your mentor for guidance.

Select the most recent full proceedings for your conference that you can find online (should be 2013; if 2013 is not available online, use 2012). You should at least skim every full paper in the proceedings. You need *not* look at poster abstracts, invited presentations, tutorials, or other minimally-reviewed material. If in doubt, ask your mentor how to identify the proceedings-track papers.

Try to get a sense from your reading of what the "hot topics" were at the conference. Which subjects come up over and over again in papers? As you read over the proceedings, you may need to do additional, outside reading and library work to understand the significance of what you've read. Leave yourself plenty of time to meet with your mentor if necessary for clarification.

Please note that I do not expect you to become an expert about all of the papers in your proceedings. Part of your challenge is to triage the most significant work apart from more technical papers of relatively narrow interest.

3 Select Your Two Favorite Papers

Pick two papers from your proceedings that you consider the best. Your criteria for selection should include at least some combination of the following.

1. Do you understand the paper well enough to explain it to someone else?
2. Does the paper clearly and convincingly articulate the significance of the work performed?
3. Is the paper's relationship to its related work clear? What is its novel contribution?
4. Does the paper utilize any methods that you find particularly cool or thought-provoking?
5. Does the paper meet or exceed community standards for validation?
6. Are the paper's final conclusions and claims supported by its detailed exposition and validation?
7. Would you recommend this paper to a colleague? Why?

You should be prepared to answer all these questions about your papers of choice. Since you are probably not yet an expert in the area that you're studying, you should plan to meet at least once with your mentor to discuss your choices and find out about things like community standards in your area.

4 Defend Your Choices

For *each* of your two papers, prepare a typed review of 1-2 pages, single-spaced in 11- or 12-point text with at most 1-inch margins. Indicate clearly at the top of each review which conference, year, and specific paper you are reviewing.

Your review should not merely summarize the content of the paper but should include your own (well-informed) opinions about the work. You should address at least the following points (which I will consider in my grading):

1. Give a brief summary of the work done (new methods, explorations, etc) in the paper (no more than 1/3 page).
2. Who are the authors? Have they published related work on the same subject?
3. Why is the paper's contribution significant to its area? Please explain the contribution in a way that makes sense to someone with a basic CS background but fairly minimal area-specific knowledge.
4. What aspects of the work are novel? What previous work does the paper build on?
5. Are the methods used in the paper straightforward for its area, or does it make important methodological contributions?
6. How well was the work validated, and what were the high points of the validation?
7. Overall, would you characterize the work as "high-impact"? Why or why not?

Please append a brief bibliography of any references (other papers, books, web sites, etc) that you used in preparing each review. I expect your reviews to be written in good, readable English prose – mere notes or bullet points are *not* sufficient. Any material quoted or paraphrased from the paper or any other source (e.g. Wikipedia) should be *clearly marked* with a citation of its source.

Please turn in your reviews to me via email as PDF documents. For each review, attach a copy of the reviewed paper to the email.