CS 294-14: Architecture of Internet Datacenters
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Pointers for Leading Paper Discussions

- You should assume that everyone was read the papers (and by implication, you should read all the papers too!).

- Since we typically cover three papers each 80 minute class session, we will have about 20 minutes to discuss each one (i.e., 60 minutes for papers, 10 minutes for breaks – 2 x 5 minutes, 10 minutes for synthesizing the three or more papers discussed).

- The Discussion Leader should begin by summarizing the paper. A good way to tackle this is to structure the presentation around the following questions:

    - What is the problem the authors are trying to solve? (usually covered in the introduction or an early section that states the problem).
    - How have others tried to tackle the problem and where have they fallen short? (usually covered in a related works section).
    - What is the authors' key new make-a-difference approach? (the meat of the paper will present a new concept, organization, algorithm, etc.). This is where you should spend most of your time and typically is the bulk of the paper.
    - How did the authors demonstrate/prove that their approach is a good one, if at all? What was their evaluation methodology? Proof by theorem? Constructive prototype? Experiments? Performance Evaluation? Again, a good paper spends almost as much time evaluating their work as describing their technical approach.

- You should try to answer these questions in about 10 minutes. These presentations aren't intended as soliloquies. People (particularly your instructor!) should feel comfortable asking questions at any time. It is quite possible that this 10 minute presentation, with a good set of questions, could take up the whole allocated 20 minutes for the paper.

- Having notes to share with the class is definitely worthwhile. I suggest that you make bullet points to guide your oral presentation that we can then post on the class web site. There is lots of recent evidence that people are saturated by powerpoint, and find most such presentations to be static, boring, with the effect that they make the audience passive and stifle discussion. So we are going to concentrate on oral presentations without powerpoint, at least as an experiment. You shouldn't need to make complex figures: everyone should bring the papers with them and you can refer them to a particular diagram or performance graph.

- An important part of the discussion to be fair but critical of the paper. Is the problem it is solving a real one, or simply formulated for the purposes of writing a paper? Are the assumptions reasonable, or simply chosen to make analysis easy? Is the approach feasible, or in reality, quite difficult to implement? Is the methodology appropriate, or is an important element of the evaluation left out? And perhaps most importantly, what have the authors NOT solved and what is left for further research? After all, we are supposed to be standing on the shoulders of giants. The remainder of our time for the paper should be spent in this kind of discussion.

- At the end of a class session, your instructor is responsible for leading a discussion that synthesizes the discussion across the three (or more!) papers presented and discussed during that session.

- These are meant to be guidelines, and we will see how our discussions develop over the course of the semester. If you have suggestions how to improve the nature and quality of the discussions, please share them with me.