Reading and presenting papers

COS 518 Advanced Computer Systems

How to critically read a paper (1/2)

• Read once for perspective, twice for details
  – Large systems have many "moving parts" (Lect. 1)
  – Analogous to "build one to throw one away", you may need to revisit the paper in order to know which design details to focus on

• Take notes as you read
  – Question assumptions, importance of problem, important effects not mentioned by authors
  – Write questions to track what you don't understand

How to critically read a paper (2/2)

• Don't pass by ideas/design details until you understand
  – May need to re-read a paragraph, many times, or even discuss with peers
  – You can't fully understand if the design is good unless you understand all the details: be vigilant!

• Don't presume authors' assumptions or design choices correct simply because paper was published!

How to evaluate a research paper?

• Important, relevant problem? Clever idea? These are orthogonal!
• Reasonable assumptions and models?
• Longer ago published, more you can judge impact:
  – Does everyone now use systems derived from it?
  – Has the idea shown up in many different contexts?
• Recent papers: more on cleverness, promise
• Other contributions possible
  – Thorough investigation of complex phenomenon
  – Comparison that brings sense to an area