

CS 164 Spring 2006 - Project: Doing Research

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In this project, you are required to form teams of two, and take the first steps in doing research. Research starts with a question, continues with assessing the state of the art, and arrives at identifying what can be done next.

You are expected to pick a research topic and investigate to the point of being able to make recommendations on:

- its importance and how it fits in with what the
- provide a critical synthesis of previous work
- understand what is left to be done and improved

This is a common "technology assessment" scenario in an industrial environment (i.e. you may find yourselves doing this after you graduate).

You are expected to:

- 1) identify a research paper from my web-site: skim through a couple and pick one that matches your interests
- 2) read it and understand it
- 3) explore the most related papers: before or after that paper (at least to 5-6 other papers)

Deliverable: We want a report (approx. 4-6 pages, 11pt font, single spaced reasonable margins) that will have the following sections:

- 1 introduction
- 2 problem definition
- 3 review of the main paper
- 4 review of other related papers
 - what previous papers did or did not do
 - what subsequent papers did better (or forgot to consider)
- 5 Discussion
 - 5.1 what was novel in the main paper
 - 5.2 what are the weaknesses and limitations of the main paper
 - 5.3 how could the main paper be improved or extended
 - (if the boss would say, read this and find a way that we can improve it: could be using something from the other papers or doing more in depth experiments or simulations)

The introduction is a quick summary of the whole paper (approx 1-1.5 pages) that should have approx. a paragraph for each of the subsequent sections. For more details, see my web-page: on how to write and structure a research paper: <http://www.cs.ucr.edu/~michalis/techwriting.html> However, you need to follow the proposed structure here.

Note: In general, don't cut and paste figures from papers.

You should not copy text: you should use your own words.

Evaluation:

We will consider

- depth of understanding the problem
- thoroughness of research (you need to identify the most related papers and show how they relate)
- effectiveness and clarity of writing (again see my website for suggestions)