Literature Review

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First Thing To Do – Be A READER

- Be a READER!!
- So u can develop your understanding.
- When u read an paper article, what do u want to acquire??
  - Contributions of the Paper
  - Value of the Paper
  - Methodology
  - Recognizing its flaws
- This reading then informs new work, directly as a source of knowledge and indirectly as a guide to how to produce work that will be appreciated.

Research Literature - Reading

- By the time your research is complete, you need to be confident that you have read and understood all of the scientific literature that has a significant connection to your work.
- Your reading achieves several aims :
  - It establishes that your work is indeed novel or innovative;
  - It helps you to understand current theory, discoveries, and debates;
  - It can identify newlines of questioning or investigation;
  - and it should provide alternative perspectives on your work.

Research Literature – Source of Knowledge

- These are the documents that are accepted by the research community as a source of knowledge; indeed, they can be regarded as being the entirety of our scientific knowledge :
  - Papers that have been refereed and published in a reputable venue,
  - Theses that have been undertaken and examined at a reputable institution,
  - and Books that are based on the information presented in refereed theses and books.

Research Literature – Other Sources

- The literature does not include primary sources such as -- lab notebooks, responses to a survey, or outputs from an experiment -- What these lack is interpretation of the contents in light of a specific hypothesis.
- Other literature —news articles, science magazines, Wikipedia pages, or documentation, for example—may alert you to the existence of reputable work, but is rarely worth citing.
- That is, your learning may be built on a wider literature, but the arguments in your write-up should be based on knowledge that is from a refereed source.

Searching a Literature

- Comprehensive exploration of relevant literature involves following several intertwined paths:
  - Use obvious search terms to explore the Web.
  - Some of the major search engines have search tools that are specifically for academic papers.
  - Visit the websites of research groups and researchers working in the area.
  - Follow up the references in promising research papers.
  - Browse the recent issues of the journals and conferences in the research area.
  - Search the publisher-specific digital libraries.
  - Most conferences have websites that list the program
  - Consider using the citation indexes.
  - Go to the library
  - Discuss your work with as many people as possible.

“Relevant” Paper

- What makes the paper is relevant?
  - Does the paper have interesting insights into other research literature?
  - Does it establish a benchmark?
  - Have the authors found a clever way of proving a theorem that you can apply in your own work?
  - Does the paper justify a decision to not pursue some particular line of investigation?
- Other people’s research can have many different kinds of effect on your work.

Searching vs Reading

- Searching and reading are separate activities, and it is a mistake to try and do both at once.
- I recommend that you uncritically gather material and then later critically analyze and categorize.
- Save the papers you find into a directory, and go through it later to understand what you have found.
- In the context of a single search session, it is also helpful to restrict your attention to one or two specific topics.

Critical Reading

- Read papers by asking critical questions of them, such as:
  - Is there a contribution? Is it significant?
  - Is the contribution of interest?
  - Are the results correct?
  - Is the appropriate literature discussed?
  - Does the methodology actually answer the initial question?
  - Are the proposals and results critically analyzed?
  - Are appropriate conclusions drawn from the results, or are there other possible interpretations?
  - Are all the technical details correct? Are they sensible?
  - Could the results be verified?
  - Are there any serious ambiguities or inconsistencies?

Developing a Literature Review

- A literature review is a structured analysis of a body of literature, and may cover work from several separate areas of research.
- This review is not simply a list of these papers. Rather, the papers should be grouped by topic, and critically discussed in a way that allows the reader to understand their contribution to the field, their limitations, and the questions that they leave open.