

# Literature Review

Etienne Renault

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<https://www.lrde.epita.fr/~renault/teaching/biblio/>

1 What is a Literature Review ?

2 Literature Review Process ?

3 Literature Review Writing

4 Tools

# What is a Literature Review ?

A literature review can be both an activity and a product.

- **Activity** : The activity of performing a literature review consists of discovering and reading published papers and technical reports on some research topic.
- **Product** : The product of a literature review is a written summary of the seminal, relevant and state-of-the-art approaches and theories on a topic.

Literature review is the only way to stay on top of new developments in a field.

# What is a Successfull Literature Review ?

- ① Identify the current state-of-the-art
- ② Provide background regarding significant prior work
- ③ Editorialize about the strengths and weaknesses while comparing and contrasting competing theories and approaches.

# Important

It is necessary to understand the context of a field of research before performing research !

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# Pick a Research Topic

**The more specific, the better.**

It is impossible to work on :

- Speech Recognition
- Artificial Intelligence
- Model-Checking
- ...

# Define your keywords

It is very important to use targeted keywords :

- ➊ Break up the topic you are researching into its main concepts
- ➋ Define a keyword for each concept
- ➌ Expand the list by alternative phrasing or technical words

Be careful, same words may have different meaning  
in different topics !



# Start your Search

- ① Identify some relevant articles :
  - ▶ Start with peer-reviewed (rank A) papers in order to become more familiar with Sota.
- ② Identify relevant references (for your research topic)
  - ▶ Closed to you topic
  - ▶ Major contribution in the domain
  - ▶ ...
- ③ Follow the citations :
  - ▶ **backward searching** : look through the relevant references of step 2. articles
  - ▶ **forward searching** : look at the papers that have cited the articles since they were published

# Record of your Searches

- Download papers
- Pay attention to build the correct citation !
- Write all ideas that come in your mind during the reading
- Review papers
- Keep track of *to-read* papers

Use a reference manager !

# Should I read all papers ?

Selectionning which paper to read requires to overview a lot of papers :

- Read carefully the abstract
- Read (carefully) the introduction
- Read carefully the conclusion
- Decide to read (or not) the paper

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- **Add remarks according to your current research topic !**

# When to stop ?

Hard question !

since research is incredibly interconnected

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- Depending too much on secondary sources

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# Introduction

- ➊ Overview the problem
- ➋ Provide explication of why the problem worth considering
- ➌ Cite major and latest advances in the domain
- ➍ Plus :
  - ▶ for paper writing : cite studies related to YOUR domain)
  - ▶ for survey writing : explain why such a survey must be realised

# Body

Don't use "he/she said that..." It is not a collection of studies

- 1 Group articles
- 2 Clarifies the relationship between papers (and YOUR domain research)
- 3 Convince the reader that your review is worthwhile
- 4 Convince the reader using logical support
- 5 Do not relay common knowledge

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# Where to find an article

- Google Scholar
- theses.fr
- HAL
- Arxiv
- ACM library on-line
- Springer library on-line
- Author's homepage
- ...

# Managers

- JabRef
- Zotero
- Mendeley
- BibDesk
- ...