Resources for the PhD Thesis

Date of Creation: 2020/01/28 **Ángel Longueira-Romero, Maialen Eceiza-Olaizola**
Last Update: 2022/06/10 **Version:** 5.2

When researching, there are some key factors that matter the most: searching publications to read, knowing the quality of those publications, writing down the results of your research work, and publishing them. In between, you might want to manage your time and your information.

For each of these tasks, there is a section that lists the most useful tools in each case, along with a short description, so you can make the most out of them.

Finally, I hardly recommend reading A Survival Guide to a PhD by Andrej Karpathy, the Sr. Director of AI at Tesla.

The resources that I use the most are marked with the symbol "■" before their names.

Contents

1 Publications search engines **4**
1.1 Authors . . . 4
1.1.1 ■ Microsoft Academics . . . 4
1.1.2 ■ dblp . . . 4
1.1.3 Semantic Scholar . . . 4
1.2 Papers . . . 4
1.2.1 ■ Google Scholar . . . 4
1.2.2 ■ IEEE Xplore . . . 4
1.2.3 Scopus . . . 4
1.2.4 Engineering Village . . . 4
1.2.5 Elsevier . . . 4
1.2.6 Web Of Science . . . 5
1.2.7 Science Direct . . . 5
1.2.8 ACM Digital Library . . . 5
1.2.9 Springer Link . . . 5
1.2.10 arXiv . . . 5
1.2.11 EndNote Click - Formerly Kopernio . . . 5
1.2.12 □ SCI-HUB . . . 5
1.3 Conferences . . . 5
1.3.1 ■ WikiCFP . . . 5
1.3.2 Conference Monkey . . . 5
1.3.3 Conference Alerts . . . 5
1.4 Books . . . 6
1.4.1 Google Books . . . 6
1.4.2 □ Library Genesis . . . 6
1.5 Topics . . . 6
1.5.1 Google Trends . . . 6

2 Quality of a publication **6**
2.1 Papers . . . 6
2.1.1 ■ SJR . . . 6
2.1.2 JCR . . . 6
2.2 Conferences . . . 6
2.2.1 ■ GII-GRIN-SCIE . . . 6
2.2.2 Conference Ranks . . . 7
2.2.3 Core Conference Portal . . . 7

3 LaTeXand Writing Tools **7**
3.1 Editors . . . 7
3.1.1 ■ Overleaf . . . 7
3.2 Maths . . . 7
3.2.1 ■ Detexify . . . 7
3.2.2 ■ LaTeX Equation Editor . . . 7
3.2.3 ■ HostMath Editor . . . 7
3.2.4 Mathpix Snip . . . 7
3.3 Tables . . . 7
3.3.1 ■ Table Generator . . . 7
3.3.2 ■ LaTeXtables . . . 7
3.4 Grammar and Spelling . . . 8
3.4.1 TeXtidote . . . 8
3.4.2 Grammarly . . . 8
3.4.3 Squeezing space with LaTeX . . . 8
3.4.4 Acronyms . . . 8
3.5 Translators . . . 8
3.5.1 ■ DeepL . . . 8
3.6 Writing papers . . . 8
3.6.1 ■ Power Thesaurus . . . 8
3.6.2 ■ Academic Phrasebank . . . 8
3.6.3 Latexdiff . . . 8
3.7 Templates . . . 8
3.7.1 TeXample . . . 8

4 Reference manager **9**
4.1 Mendeley . . . 9
4.2 Zotero . . . 9

5 Social Networks **9**
5.1 ■ LinkedIn . . . 9
5.2 ■ Twitter . . . 9
5.3 ■ ORCID . . . 9
5.4 Google Scholar Account . . . 9
5.5 Academia . . . 9

6 Management Tools **10**
6.1 ■ Notion . . . 10
6.2 ■ Google Calendar . . . 10
6.3 ■ Trello . . . 10

7 Creating and Editing Images **10**
7.1 ■ Draw.io . . . 10
7.2 ■ FreeMind . . . 10
7.3 ■ ColorBrewer . . . 10
7.4 Adobe Color . . . 10
7.5 Unplash . . . 10
7.6 Flaticon . . . 10
7.7 MindMaster . . . 10
7.8 Web Sequence Diagrams . . . 11

8 Web Browser Utilities **11**
8.1 ■ Pop Up Blocker . . . 11
8.2 ■ AdBlock . . . 11
8.3 ■ Auto Tab Discard . . . 11
8.4 ■ LanguageTool Plus . . . 11
8.5 ■ Keepa . . . 11
8.6 ■ Ghostery . . . 11

9 Other Tools **11**
9.1 ■ WolframAlpha . . . 11
9.2 ■ OS Boxes . . . 11
9.3 ■ I Love PDF . . . 12
9.4 ■ JetBrains Mono Typeface . . . 12
9.5 ■ FreeCodeCamp . . . 12
9.6 ■ Sublime Text . . . 12
9.7 Atom . . . 12
9.8 Text to ASCII Art Generator . . . 12
9.9 Plain Text Table Generator . . . 12
9.10 HP Prime Emulator . . . 12
9.11 Bit Twiddling Hacks . . . 12

1 Publications search engines

In this section, you can find:

- **Search engines**: Webs to search for the articles you want or need to read.
- **Call for Papers:** Conferences that are asking for paper submissions.

1.1 Authors

These search engines are interesting if you want to know more information about the authors.

1.1.1 ■ Microsoft Academics

Microsoft Academics is very useful when you want to search by terms, and it also helps you to find the most important authors in your topic. It has a very powerful semantic search engine.

1.1.2 ■ dblp

dblp provides open bibliographic information on major computer science journals and proceedings. It gives you the majority of the publication of the authors. It is useful to get a general idea of what topics each author is researching. You can also search publications or topics.

1.1.3 Semantic Scholar

Semantic Scholar is a powerful tool to know how authors are related among them, and to know relevant authors in a specific topic.

1.2 Papers

These search engines will help you to find the most relevant papers in your topic.

1.2.1 ■ Google Scholar

Google Scholar is the most powerful search engine, and usually returns a large number of papers. Some of them might be accessible, but other might have only the abstract available. Nevertheless, it usually merges the results of other search engines (but not always). Therefore, it is always a good idea to use a two or three main engines.

1.2.2 ■ IEEE Xplore

IEEE Xplore might be the most important engine for engineers.

1.2.3 Scopus

1.2.4 Engineering Village

Engineering Village

1.2.5 Elsevier

Elsevier

1.2.6 Web Of Science

1.2.7 Science Direct

Science Direct

1.2.8 ACM Digital Library

ACM Digital Library

1.2.9 Springer Link

Springer Link

1.2.10 arXiv

arXiv is related to basic science, but interesting papers can be found here too. Sometimes, authors upload papers here when they need them, so they can cite them in other publications.

1.2.11 EndNote Click - Formerly Kopernio

Kompass helps you get to your full-text PDFs faster by securely connecting you to your library's journal subscriptions and open access content.

1.2.12 □ SCI-HUB

SCI-HUB is a database where you can access to a ridiculously huge amount of documentation (illegally) for free. You can search by title, URL, ISBN, DOI...just try if it works. Note that this MUST be your LAST OPTION when you are trying to find documentation online. Use it when there is no other choice, not because it is easier and more comfortable. Take care of yourself if you are going to use this: use a proxy, the Tor browser (I will not give you more ideas).

1.3 Conferences

1.3.1 ■ WikiCFP

Wiki Call For Papers is a semantic wiki for Calls For Papers in science and technology fields. There are about 50,000 CFPs on WikiCFP. Here, you can search by terms, and the Wiki will return the conferences related to that topic, and the deadline for the paper submission.

1.3.2 Conference Monkey

Conference Monkey helps researchers and scientists to find, prepare, and attend the best conferences and workshops in the greatest locations all around the world.

1.3.3 Conference Alerts

Conference Alerts is another web with a database with conferences.

1.4 Books

1.4.1 Google Books

Google Books, as they say, is the world's most comprehensive index of full-text books. Sometimes, there are previews available of the book you are looking for. If you are lucky enough, the preview will include the chapters or pages (or paragraphs) that you want to read.

1.4.2 □ Library Genesis

Library Genesis, also known as LibGen, is a web page where you can find and download books for free from a wide catalogue. Note that this MUST be your LAST OPTION when you are trying to find any book online. Use it when there is no other choice, not because it is easier and more comfortable. Take care of yourself if you are going to use this: use a proxy, the Tor browser (I will not give you more ideas).

1.5 Topics

1.5.1 Google Trends

Google Trends lets you explore what is being searched on the Internet. You can search by search topics or terms and it will show you its popularity during time.

2 Quality of a publication

2.1 Papers

The impact index measures the impact that a journal has had on the scientific literature by analysing the citations that the articles published in it have received. It provides a relationship between the number of articles published in a given period and the number of citations received in that period.

It doesn't matter which one you use. The only rule here is to choose always the highest quartile available for a journal. Always keep that in mind.

2.1.1 ■ SJR

SJR (Scimago Journal Rank). It also offers information on the impact of magazines, and country performance, evaluating the information extracted from Elsevier's Scopus. It is free.

2.1.2 JCR

JCR (Journal Citation Report). High impact journals are officially indexed on the Web of Science (WoS) and included in the JCR. It is the official source of information today. The access to this platform is usually granted by the university using the corresponding credentials.

2.2 Conferences

2.2.1 ■ GII-GRIN-SCIE

GII-GRIN-SCIE is usually the reference search engine to know the quality of a conference. It it better to search by acronym when possible. This is an initiative sponsored by GII (Group of Italian Professors of Computer Engineering), GRIN (Group of Italian Professors of Computer Science), and SCIE (Spanish Computer-Science Society).

2.2.2 Conference Ranks

Conference Ranks is another web where you can look up the ranking of a conference using the ERA Ranking (2010), the Qualis Ranking (2012), and the MSAR (2014).

2.2.3 Core Conference Portal

Core Journal Portal uses CORE and ERA rankings.

3 LaTeXand Writing Tools

3.1 Editors

3.1.1 ■ Overleaf

3.2 Maths

3.2.1 ■ Detexify

Detexify is an online tool that helps you to know how to write any symbol in LaTeX, using an draw-based search.

3.2.2 ■ LaTeX Equation Editor

LaTeX Equation Editor is an online equation editor that shows a really friendly user interface. Using the option in the toolbar, you can write any mathematical expression in a very easy way, and it will generate the LaTeXcode for you, so you don't have to think.

3.2.3 ■ HostMath Editor

HostMath - Online LaTeXFormula Editor is another online equation editor that works in the same way as the previous one. The user interface let you introduce any mathematical expression, and it will generate the LaTeXcode for you.

3.2.4 Mathpix Snip

Mathpix Snip is a tool that extract LaTeXfrom PDFs or handwritten notes in seconds just by taking a screenshot. To use it, you must download it and install it in your PC. It seems to have a limited number of uses before the program asks you to upgrade.

3.3 Tables

3.3.1 ■ Table Generator

Table Generator is an online tool that helps you create tables in LaTeX. It offers an intuitive interface and generates the code in LaTeX. It can be useful to create the framework of your table, as a first sketch.

3.3.2 ■ LaTeXtables

Latex tables is an online tool that helps you create tables in LaTeX. It offers more options than the previous one, but for simple tables is better the first one because is simpler.

3.4 Grammar and Spelling

3.4.1 TeXtidote

TeXtidote is a correction tool for LaTeX documents.

3.4.2 Grammarly

Grammarly is a web browser extension that helps you to compose clear, mistake-free writing.

3.4.3 Squeezing space with LaTeX

Squeezing Space With LaTeX

3.4.4 Acronyms

Acronyms package.

3.5 Translators

3.5.1 ■ DeepL

DeepL is the quintessential translator. It offers a small list of languages, but the results of the translations are near perfection. You can write like a native using this. It is also useful to check your own texts. It works using deep learning, so the more text you type to translate, the more accurate the result will be.

3.6 Writing papers

3.6.1 ■ Power Thesaurus

Power Thesaurus

3.6.2 ■ Academic Phrasebank

Academic Phrasebank is a general resource for academic writers. It aims to provide examples of some of the phraseological 'nuts and bolts' of writing organised according to the main sections of a research paper or dissertation (see the top menu). The phrases, and the headings under which they are listed, can be used simply to assist you in thinking about the content and organisation of your own writing, or the phrases can be incorporated into your writing where this is appropriate.

3.6.3 Latexdiff

Latexdiff is an invaluable utility that makes it easy to markup and view changes made to the document. It definitely reduced my burden of having to read through two files simultaneously, where it would be easy to overlook subtle changes like word substitutions and changing numbers or signs in an equation.

3.7 Templates

3.7.1 TeXample

TeXample is a web site dedicated to the wonderful world of figures and images in TeX and friends.

4 Reference manager

4.1 Mendeley

Mendeley is a free reference manager and academic social network that can help you organise your research, collaborate with others online, and discover the latest research. It automatically generates bibliographies (in various formats), you can easily import papers from other research software and find relevant papers based on what you're reading and access your papers from anywhere online. There is a web browser extension available as well as a desktop app.

4.2 Zotero

Zotero is a free, easy-to-use tool to help you collect, organise, cite, and share research. It is very useful when you want to reference a web page (blog, YouTube video, corporative web, etc.). It is available as a web browser extension and as a desktop app.

5 Social Networks

You might be thinking why this section is included in this document. The reason is simple: visibility. Publishing about your research, your achievements, and the topics of your interest is a very powerful way to stand out.

On the other hand, social networks bring the opportunity to get in touch with people with your same research interests, and to know what the most relevant experts in your topic are working on, and keep up to date. It may seem insignificant, but the devil is in the detail, and being active in your social networks matters.

5.1 ■ LinkedIn

LinkedIn

5.2 ■ Twitter

Twitter

5.3 ■ ORCID

ORCID ORCID is a nonprofit organisation helping create a world in which all who participate in research, scholarship and innovation are uniquely identified and connected to their contributions and affiliations, across disciplines, borders, and time. It is really important to have an ORCID number as a researcher, so you can be uniquely identified. This is a example of a superb profile in ORCID.

5.4 Google Scholar Account

Google Scholar

5.5 Academia

Academia is a platform for academics to share research papers. Academics use Academia.edu to share their research, monitor deep analytics around the impact of their research, and track the research of the academics they follow.

6 Management Tools

6.1 ■ Notion

Notion is a all-in-one workspace that can be synchronised with the previous tools. It is free for personal use. The main drawback is that even the desktop version needs Internet to work.

6.2 ■ Google Calendar

Google Calendar

6.3 ■ Trello

Trello is a visual tool that helps you organise your tasks, creating cards. If you usually use the Pomodoro technique, Pomello is a minimalist desktop app that turns your Trello cards into Pomodoro tasks. KanbanFlow is a similar tool to Trello, but the columns in the Kanban method are predefined.

7 Creating and Editing Images

7.1 ■ Draw.io

Draw.io is a free online diagram software for making flowcharts, process diagrams, org charts, UML, ER and network diagrams.

7.2 ■ FreeMind

FreeMind is the best tool I know for creating conceptual maps. Its very simply and powerful.

7.3 ■ ColorBrewer

ColorBrewer is a really useful tool for choosing colour pallets, and it has the option to be colourblind safe, print friendly, and photocopy safe.

7.4 Adobe Color

Adobe Color is an online tool that helps you to choose the right set of colour for any visualisation that you have to develop.

7.5 Unplash

Unplash is a source of freely usable images.

7.6 Flaticon

Flaticon is the largest database of free icons available in PNG, SVG, EPS, PSD and BASE 64 formats.

7.7 MindMaster

MindMaster

7.8 Web Sequence Diagrams

Web Sequence Diagrams is an online tool to create sequence diagrams in seconds.

8 Web Browser Utilities

8.1 ■ Pop Up Blocker

Pop Up Blocker automatically removes all ad pop-ups, pop-unders, and overlays for a cleaner browsing experience.

8.2 ■ AdBlock

AdBlock Plus and AdBlock block ads and pop-ups on YouTube, Facebook, Twitch, and your favourite websites. It is recommended installing both of them, because each one blocks a certain type of advertisement.

8.3 ■ Auto Tab Discard

Auto Tab Discard automatically discards inactive tabs after a defined period to free up the memory usage of the tab and to prevent background scripts from using the computational power of your browser when the tab is not being used by the user. This extension uses the native method to discard tabs and hence does not have issues other similar extensions might suffer from. Also in this method, the discarded tabs will not use any memory at all and will restore to the previous state while preserving the page state (like scroll position for instance).

8.4 ■ LanguageTool Plus

LanguageTool Plus automatically checks the text you enter in text fields. You can also check any text when selecting it, and it work with a lot of languages.

8.5 ■ Keepa

Keepa is an Amazon price tracker.

8.6 ■ Ghostery

Ghostery is a powerful privacy extension. Block ads, stop trackers and speed up websites.

9 Other Tools

9.1 ■ WolframAlpha

WolframAlpha is a computational knowledge engine or answer engine. It is an online service that answers factual queries directly by computing the answer from externally sourced "curated data", rather than providing a list of documents or web pages that might contain the answer, as a search engine might.

9.2 ■ OS Boxes

OS Boxes provides ready to use Unix/Linux virtual machines, so anyone can easily download and use it regardless of host OS.

9.3 ■ I Love PDF

I Love PDF offers every tool you need to work with PDFs in one place. You can merge, split, compress, convert, rotate, unlock and watermark PDFs with just a few clicks.

9.4 ■ JetBrains Mono Typeface

JetBrains Mono is a typeface designed for programmers. It is highly recomeded. Some of its features are that the symbols such as “L”, “I”, and “1”, are clearly distinguishable from each other. It also has a lot of ligatures to show the operators, reducing noise and balancing white spaces.

9.5 ■ FreeCodeCamp

FreeCodeCamp. Learn to code — for free. Build projects. Earn certifications. That’s what they say.

9.6 ■ Sublime Text

Sublime Text is a sophisticated text editor for code, markup and prose. This is THE editor.

9.7 Atom

Sublime Text is like Sublime, but diferent.

9.8 Text to ASCII Art Generator

Text to ASCII is an online tool that generates ASCII images with the letters you type. It is really useful for commenting code and make it clean and neat.

9.9 Plain Text Table Generator

Plain Text Table Generator is a tools that does exactly that. It generates tables in ASCII. It is really useful for commenting code and make it clean and neat.

9.10 HP Prime Emulator

HP Prime Emulator is a PC program which copies the user interface, display and keyboard of the HP Prime onto the PC. The emulator owns the same functionality as the HP Prime.

9.11 Bit Twiddling Hacks

Bit Twiddling Hacks