

Resources for the PhD Thesis

Date of Creation: 2020/01/28
Last Update: 2022/11/23

Ángel Longueira-Romero, Maialen Eceiza-Olaizola
Version: 5.4

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
1.4.3	□ PDF Drive	6
1.4.4	□ Z Library	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	7
2.2.1	■ GII-GRIN-SCIE	7
2.2.2	Conference Ranks	7
2.2.3	Core Conference Portal	7
3	\LaTeX and 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	8
3.3.1	■ Table Generator	8
3.3.2	■ \LaTeX tables	8
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	9
3.7	Templates	9
3.7.1	TeXample	9
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	10
5.4	Google Scholar Account	10
5.5	Academia	10
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	11
7.5	Unplash	11
7.6	Flaticon	11
7.7	MindMaster	11
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	12
9	Other Tools	12
9.1	■ WolframAlpha	12
9.2	■ OS Boxes	12
9.3	■ I Love PDF	12
9.4	■ JetBrains Mono Typeface	12
9.5	■ FreeCodeCamp	12
9.6	■ Sublime Text	12
9.7	■ Sublime Text	12
9.8	Atom	12
9.9	TreeSheets	12
9.10	Text to ASCII Art Generator	13
9.11	Plain Text Table Generator	13
9.12	HP Prime Emulator	13
9.13	Bit Twiddling Hacks	13

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).

1.4.3 ☐ PDF Drive

[pdfdrive](#)

1.4.4 ☐ Z Library

[Z Library](#)

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 is 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 \LaTeX and 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 \LaTeX code for you, so you don't have to think.

3.2.3 ■ HostMath Editor

[HostMath - Online \$\text{\LaTeX}\$ Formula 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 \LaTeX code for you.

3.2.4 Mathpix Snip

[Mathpix Snip](#) is a tool that extract \LaTeX from 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 ■ \LaTeX tables

[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 \$\text{\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, corporate 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 an 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 an 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. It's very simple and powerful.

7.3 ■ ColorBrewer

[ColorBrewer](#) is a really useful tool for choosing colour palettes, 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 recommended. 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 ■ Sublime Text

[Anonymous GitHub](#) anonymizes your repository in 5 min for submitting to a journal or conference.

9.8 Atom

[Sublime Text](#) is like Sublime, but different.

9.9 TreeSheets

[TreeSheets](#) is a Open Source Free Form Data Organizer (Hierarchical Spreadsheet)

9.10 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.

9.11 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.

9.12 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.

9.13 Bit Twiddling Hacks

[Bit Twiddling Hacks](#)