

Understanding the full picture of a research project requires not just the traditional journal articles, but also the data and software used to process and analyse that data.

What you need before making your software citable





A code repository on a software development platform

Using a code repository in conjunction with a version control system adds a layer of resilience to your software project, and helps to establish good habits around development, especially if you work in a team. You will be able to track changes to your code and, should you need it, allow you to backtrack to a previous point in time. Tracking versions of your code is also important for understanding the way in which your analytical methods or models change over time. Commercial software development platforms include Bitbucket, GitHub, and Gitlab. Your institution may also have an in-house code repository, check with your IT department.



An ORCID iD

An ORCID iD allows you to unambiguously associate yourself with your research outputs (not just publications), and makes it easier for you to upload your academic work to research management systems, such as those used by research funders. Getting an ORCID iD costs nothing, and it will follow you throughout your career.

Using your ORCID iD in outputs including publications often leads to these being automatically recorded, saving you time in the long run. Note that if you have written your software in a team, you should encourage your collaborators to get an ORCID iD too.







A licence

Applying a licence to your software lets third parties know under which circumstances your software may be used and reused, if at all. There are many software licences to choose from, so learn more about licences and pick one that will provide you with the features that are appropriate for you and your project.

Two steps to making your software citable



Snapshot

We encourage you to be as open as possible, by using an open and publicly accessible repository. Take a copy of your software (a snapshot) and upload it to a repository.

You can use a public repository such as Zenodo, which enjoys an integration with GitHub that automates the transfer process. Another option is to save your software to the <u>Software Heritage</u> Archive (we recommend providing a codemeta file when doing so).

There is even a GitHub action to automate this. Depending on your discipline or domain there might be other relevant registries. If your software is closed source, submitting your software to a registry is recommended to make it citable. There are many public registries and repositories to choose from.

Along with other metadata, It is a good idea to give your code a formal version number, even if it is single use and you do not anticipate releasing another version.



Ideally, the registry or repository will provide you with a persistent identifier such as a DOI that you can use to unambiguously identify a particular version of your code. Furthermore, Zenodo can provide a DOI that points to all versions of your snapshotted software.

If your chosen registry or repository does not provide a DOI, consider asking your institution's library whether they can create a DOI for you.



Statement "Cite as"

Add a "cite as" statement to the documentation for your software, including the DOI. This should be structured similarly to a standard bibliographic entry.



For example, in the APA 7th referencing style:

Authors (Year). Name of software (Version number) [Computer software]. Publisher. URL.

Cite your own software when publishing your papers. Your papers and code can be considered related, but separate, research outputs, each with a distinct licence and identifier.

More options for structuring citations are outlined in: Katz DS, Chue Hong NP, Clark T et al. Recognizing the value of software: a software citation guide [version 2; peer review: 2 approved]. F1000Research 2021, 9:1257

https://doi.org/10.12688/f1000research.26932.2

Liffers and Honeyman (2021). ARDC Software Citation Guide.

DOI: 10.5281/zenodo.5003989

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