

5 Tips to Citing Your Research Software and Improving Discovery

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Overview - Software Citation Tips

1. Write a Software Management Plan
2. Choose a Repository
3. Prepare Your Availability Statement
4. Include Software in the References
5. Add Instructions to Your Development Platform on How to Cite Your Software

What are some of the software challenges that researchers are facing?

Citing the Software



Koen Hufkens, PhD
@koen_hufkens



Recurring gripe: every so often I check citations on my [#rstats](#) packages. Results are always appalling (e.g. {ecmwfr} 11K downloads, 0 citations). So, I'll stress this again until researchers get it in their thick skull. Properly cite the software you use! [#AcademicTwitter](#) 1/

ecmwfr

build passing codecov 80% CRAN 1.2.2 repo status Active downloads 11K DOI 10.5281/zenodo.2647541

Programmatic interface to the two [European Centre for Medium-Range Weather Forecasts](#) API services. The package provides easy access to the 'ECMWF' [web API services](#) and Copernicus [Climate Data Store](#) or 'CDS' from within R, matching and expanding upon the ECMWF python tools.

8:20 AM · May 15, 2020 · Twitter Web App

Crediting the Software



Lisa DeBruine 🏳️‍🌈

@LisaDeBruine



Replying to [@andrewang91](#)

I have the opportunity to suggest things to the APA editors in my role in the APA Open Science committee. This is one of the issues I think is important. It's often ECRs creating research software and the lack of credit discourages investment in this.

2:14 PM · Apr 5, 2021 · Twitter Web App

Searching for Software



Konrad Förstner  
@konradfoerstner



One of the core conclusions of the "finding and publishing research software" session is that there is a painful lack of search engines for research software.

[#oscibar](#) [#OpenScience](#) [#ResearchSoftware](#)

8:02 AM · Mar 12, 2018 · Twitter Web Client



The software, code, workflow, model that is integral to your research.

1. Write a Software Management Plan

“A software management plan can help to formalise a set of structures and goals that ensure your software is accessible and reusable in the short, medium and long term.”



Software Management Plans

The Software Sustainability Institute. Software Management Plan. Available online:
<http://www.software.ac.uk/software-management-plans>.

Choose an open source license

An open source license protects contributors and users. Businesses and savvy developers won't touch a project without this protection.

{ Which of the following best describes your situation? }



I need to work in a community.

Use the [license preferred by the community](#) you're contributing to or depending on. Your project will fit right in.

If you have a dependency that doesn't have a license, ask its maintainers to [add a license](#).



I want it simple and permissive.

The [MIT License](#) is short and to the point. It lets people do almost anything they want with your project, like making and distributing closed source versions.

[Babel](#), [.NET Core](#), and [Rails](#) use the MIT License.



I care about sharing improvements.

The [GNU GPLv3](#) also lets people do almost anything they want with your project, *except* distributing closed source versions.

[Ansible](#), [Bash](#), and [GIMP](#) use the GNU GPLv3.

{ What if none of these work for me? }

My project isn't software.

[There are licenses for that.](#)

I want more choices.

[More licenses are available.](#)

I don't want to choose a license.

[Here's what happens if you don't.](#)

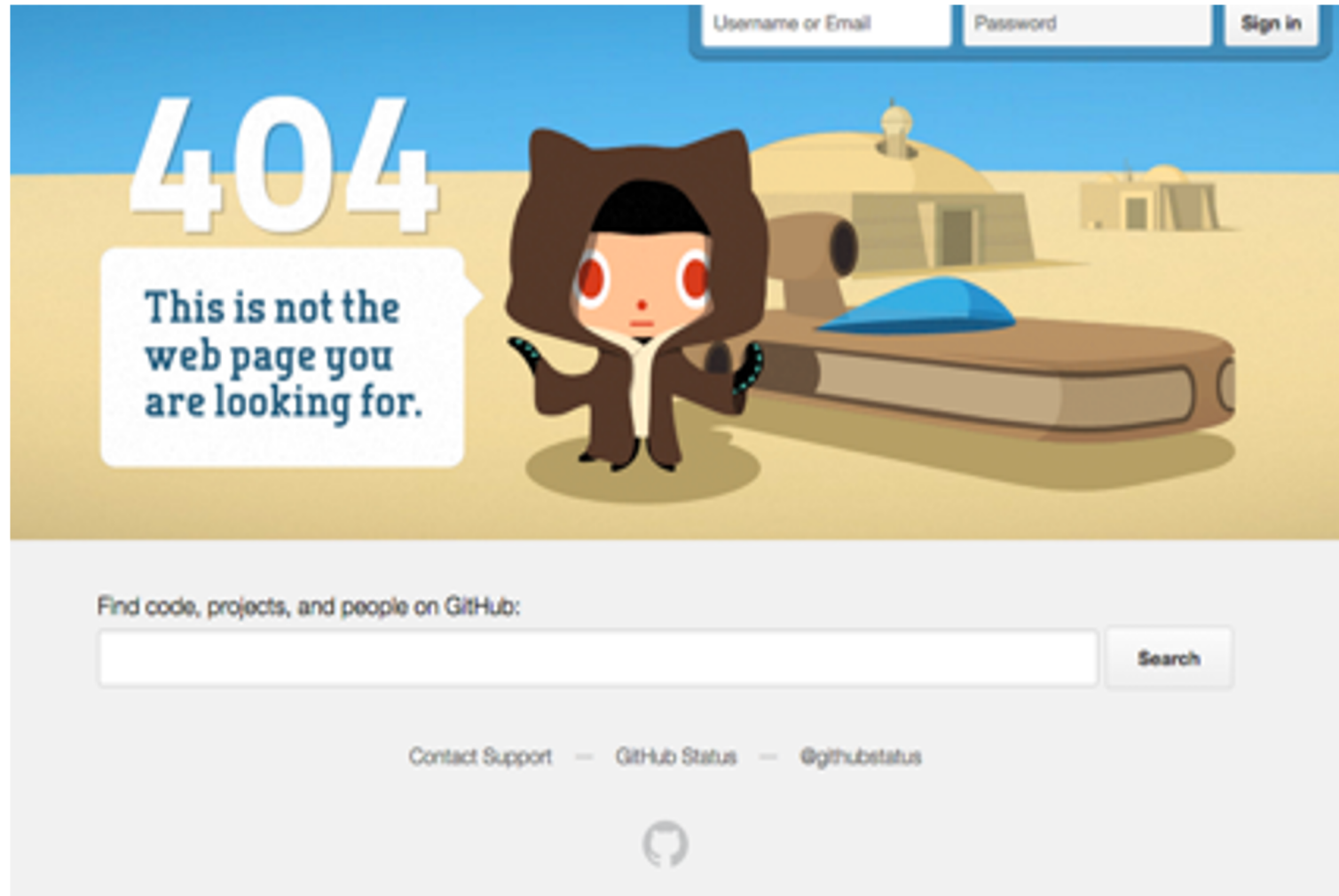
2. Choose a Repository

Collaborative software development platforms (e.g. GitHub) are helpful for developing your software in the near term but **are not long-term solutions**.

Choose a repository as a long-term solution:

- **Institutional repository supporting software preservation** that provides registration services for a digital object identifier/persistent identifier (e.g. your institution's repository).
- **Software domain repository** (e.g. Computational Infrastructure for Geodynamics (CIG), Hydroshare),
- **General repository supporting software preservation** that provides registration services for a digital object identifier (e.g. Zenodo).

GitHub is NOT a Preservation Solution!





Making Your Code Citable

🕒 10 minute read

[Digital Object Identifiers](#) (DOI) are the backbone of the academic reference and metrics system. If you're a researcher writing software, this guide will show you how to make the work you share on GitHub citable by archiving one of your GitHub repositories and assigning a DOI with the data archiving tool [Zenodo](#).

ProTip: This tutorial is aimed at researchers who want to cite GitHub repositories in academic literature. Provided you've already set up a GitHub repository, this tutorial can be completed without installing any special software. If you haven't yet created a project on GitHub, start first by [uploading your work](#) to a repository.

Intro

[Choosing Your Repo](#)

[Login to Zenodo](#)

[Check Repo Settings](#)

[Create a New Release](#)

[Minting a DOI](#)

[Finishing up](#)

Reminder

Check if the author name(s), title, version are specific.

Recent uploads

January 1, 2016

Thesis

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Kritische Soziale Arbeit und ihr Gegenstand: Eine kritische Auseinandersetzung

Stalder, Bruno; Vifian, Karin

In vorliegender Bachelorarbeit „Kritische Soziale Arbeit und ihr Gegenstand – Eine kritische Auseinandersetzung“ beschreiben die Autorin Karin Vifian und der Autor Bruno Stalder die Perspektive kritischer Sozialer Arbeit in Theorie und Praxis. Die kritische Soziale Arbeit, deren wichtigste...

Uploaded on August 30, 2016

June 10, 2015

Dataset

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View

Structure Assisted Compressed Sensing Reconstruction of Undersampled AFM Images Dataset

Oxvig, Christian Schou;  Arildsen, Thomas; Larsen, Torben

This deposition contains the results from a simulation of reconstructions of undersampled atomic force microscopy (AFM) images. The reconstructions were obtained using weighted iterative thresholding compressed sensing algorithms. The deposition consists of: An HDF5 database containing the...

Uploaded on August 25, 2016

Need help?

[Contact us](#)

Zenodo prioritizes all requested related to the COVID-19 outbreak.

We can help with:

- Uploading your research data, software, preprints, etc.
- One-on-one with Zenodo supporters.
- Quota increases beyond our default policy.
- Scripts for automated uploading of larger datasets.

Why use Zenodo?

- **Safe** – your research is stored safely for the future in CERN's Data Centre for as long as CERN exists.
- **Trusted** – built and operated by CERN and

Zenodo, a commonly used general repository for software, features a sandbox where you can test how your software will be deposited and described.

<https://sandbox.zenodo.org/>

3a. Prepare Your Availability Statement

You should include software that has a **significant impact** on the research outcome presented in your work, or on the way the research has been conducted. If the research you are presenting is **not reproducible without** a piece of software, then you should include the software.

In the Availability Statement section of your paper (also called Acknowledgements or Open Research), include:

1. Very brief description of what the software is used for
2. Repository DOI/PID for your preserved software (e.g. Zenodo)
3. Version of the software used and preserved
4. (Open source) license and other access conditions
5. Development platform link (e.g. GitHub repository)

In the methodology section of your paper:

1. Describe how your software works as it pertains to your research

3b. Prepare Your Availability Statement (Template)

The statement template would be:

[Version #] of the data cleaning and analysis software used for this research is preserved at [DOI/PID link], available via [license type, access conditions] and developed openly at [software development platform link].

4. Include Software in the References (Examples)

Yong Zhou. (2020, May 23). yzhou1989/FAPPWF master (Version master). Zenodo. <http://doi.org/10.5281/zenodo.3840905>

Lizzy Trower. (2020, January 8). lizzytrower/giantoids: Giant ooid equilibrium size model, 2nd update (Version 1.2). Zenodo. <http://doi.org/10.5281/zenodo.3601507>

Shaoqian Hu. (2019, December 25). Direct surface wave radial anisotropy tomography package (Version 1.0). Zenodo. <http://doi.org/10.5281/zenodo.3592528>

5. Add Instructions to Your Development Platform on How to Cite Your Software

Citation File Format (CFF)

About

Events

Documentation

3 minute read

What is a CITATION.cff file?

CITATION.cff files are plain text files with human- and machine-readable citation information for software. Code developers can include them in their repositories to let others know how to correctly cite their software.

A CITATION.cff file looks like this:

```
cff-version: 1.1.0
message: If you use this software, please cite it as below.
authors:
  - family-names: Druskat
    given-names: Stephan
    orcid: https://orcid.org/0000-0003-4925-7248
title: "My Research Software"
version: 2.0.4
doi: 10.5281/zenodo.1234
date-released: 2017-12-18
```

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WHAT IS A CITATION.CFF FILE?

WHY YOU SHOULD ADD A CITATION.CFF FILE TO YOUR REPOSITORY!

CREATE A CITATION.CFF FILE NOW!

TOOLS FOR WORKING WITH CITATION.CFF FILES

EVENTS

HAVE AN IDEA? FOUND A PROBLEM?

<https://citation-file-format.github.io/#/what-is-a-citation-cff-file>

Benefits of Citing Your Software

- A **persistent copy** of your software that supports the reproducibility of your research
 - Cannot be confused with other versions/copies
- Increased **discoverability**, awareness of your work
- Trackable citation method that gives you (and your co-authors) **credit** as the creator

Thank you.



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