

SOFTWARE-SPOTLIGHT: CITATION FILE FORMAT (CFF)

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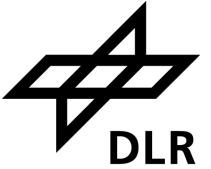
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Software
Sustainability
Institute

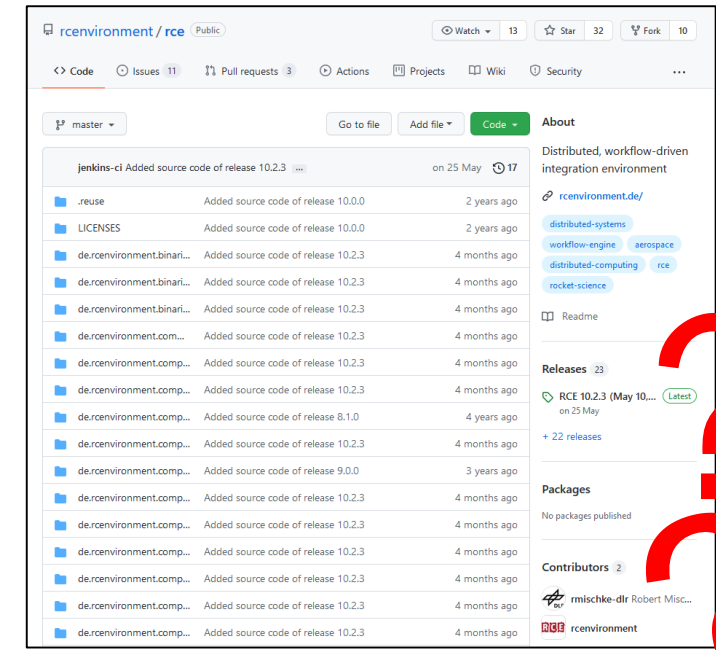
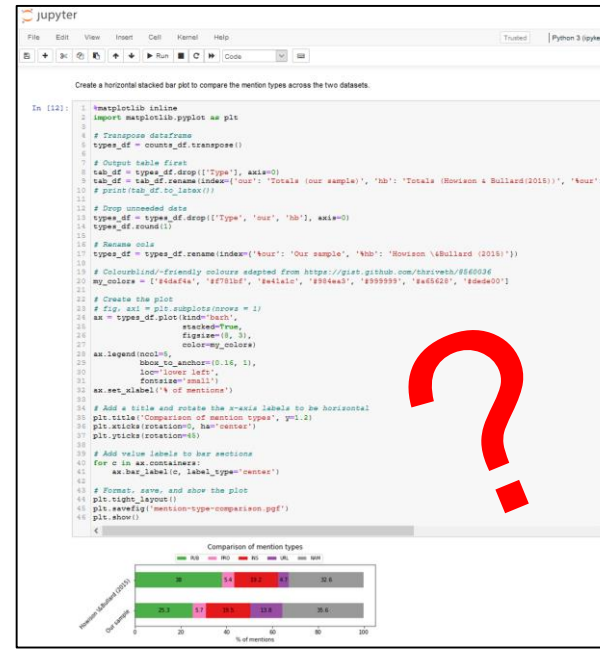
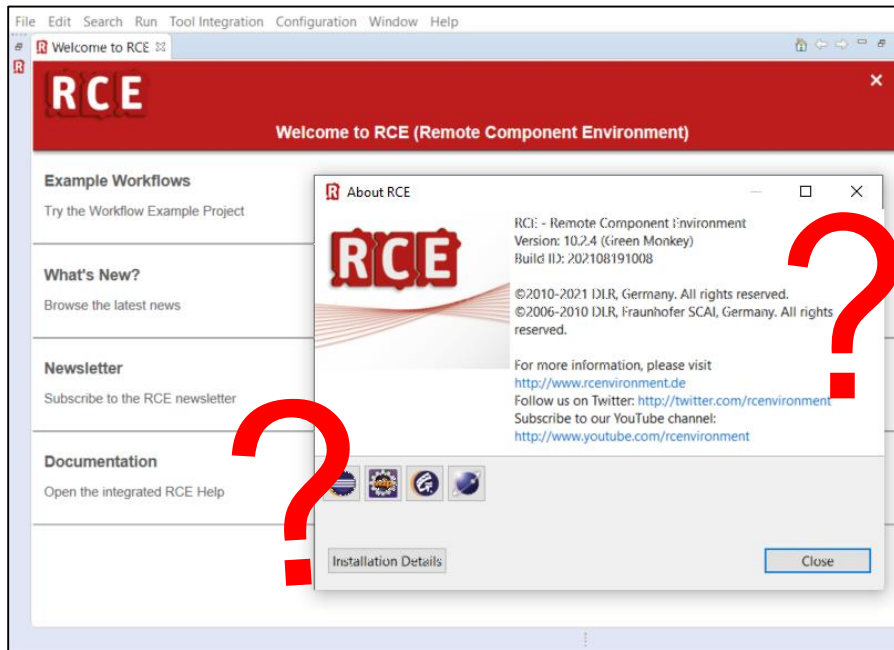


Why make research software citable?



- **Importance:** research software as part of the scholarly record
- **Credit:** it's fair, for RSEs
- **Findability, accessibility, reusability:** it's FAIR, for research software
- **Reproducibility**

The problem: metadata Software has no title page



METADATA: Name? Authors? Version? Publisher? Publication date?

Providing citation metadata with the Citation File Format



- authoritative
- controllable
- "principled":

1. Importance ✓
2. Credit and attribution ✓
3. Unique identification* ✓
4. Persistence* ✓
5. Accessibility** ✓
6. Specificity** ✓

```
cff-version: 1.2.0
message: If you use this software, please cite it using these metadata.
title: My Research Software
abstract: This is my awesome research software. It does many things.
authors:
  - family-names: Druskat
    given-names: Stephan
    orcid: "https://orcid.org/0000-0003-4925-7248"
version: 0.11.2
date-released: "2021-07-18"
identifiers:
  - description: This is the collection of archived snapshots of all versions of My Research Software
    type: doi
    value: "10.5281/zenodo.123456"
  - description: This is the archived snapshot of version 0.11.2 of My Research Software
    type: doi
    value: "10.5281/zenodo.123457"
license: Apache-2.0
repository-code: "https://github.com/citation-file-format/my-research-software"
```

+ references, preferred citation, dataset support (experimental)

METADATA: In a **CITATION.cff** file in the source code repository

Citation File Format: more than "just" a format

Create, edit & update, validate, convert



The screenshot shows the cffinit web tool interface. On the left, there's a sidebar with 'Start', 'Authors', and 'Finish' steps. The main area is titled 'Authors' and contains a form for adding an author. The form fields are: given-names (Stephan), name-particle, family-names (Druskat), name-suffix, email (stephan.druskat@dlr.de), affiliation (German Aerospace Center (DLR)), and orcid (https://orcid.org/0000-0003-4925-7248). Below the form are 'Add author', 'Previous', 'Next', and 'Download' buttons. On the right, a text area displays the generated CFF file content:

```
# This CITATION.cff file was generated with cffinit.
# Visit https://bit.ly/cffinit to generate yours today!

cff-version: 1.2.0
title: My Research Software
message: |-
  If you use this software, please cite it using the
  metadata from this file.
type: software
authors:
  - given-names: Stephan
    family-names: Druskat
    email: stephan.druskat@dlr.de
    affiliation: German Aerospace Center (DLR)
    orcid: 'https://orcid.org/0000-0003-4925-7248'
```

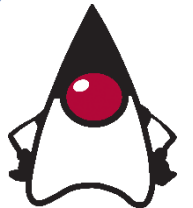
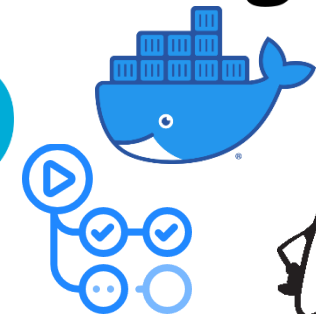
At the bottom of the interface, it says 'Your CITATION.cff is valid' and 'netherlands science center'.



python™

julia

GO



TypeScript

JS

R

php

cffinit: web tool for CFF file creation - <https://bit.ly/cffinit>

Overview: <https://bit.ly/cff-tools-list>

Citation File Format GitHub



10 days ago

10 days ago

10 days ago

Readme

CC-BY-4.0 License

Cite this repository ▾

Cite this repository

If you use this software in your work, please cite it using the following metadata. [Learn more](#)

APA **BibTeX**

Druskat, S., Spaaks, J. H., Chue Hong, N., H...

View citation file

- Detects **CITATION.cff** files
- Renders citation metadata (APA, BibTeX)
- Points to **CITATION.cff** instance
- [Documents](#) and supports creation

cfftracker / CITATION.cff in main Cancel changes

Adding a **CITATION.cff** file helps users to easily cite your software from the repository overview. [Learn more](#) Insert example

<> Edit new file Preview Spaces 2 No wrap

```
1 cff-version: 1.2.0
2 message: "If you use this software, please cite it as below."
3 authors:
4 - family-names: "YOUR_NAME_HERE"
5   given-names: "YOUR_NAME_HERE"
6   orcid: "https://orcid.org/0000-0000-0000-0000"
7 - family-names: "Lisa"
8   given-names: "Mona"
9   orcid: "https://orcid.org/0000-0000-0000-0000"
10 title: "cfftracker"
11 version: 1.0.0
12 doi: 10.5281/zenodo.1234
13 date-released: 2021-08-19
14 url: "https://github.com/sdruskat/cfftracker"
15
```

Citation File Format Zenodo



March 16, 2022 Software Open Access

sdruskat/campussource: v0.1.0

Stephan Druskat

A release without a CFF file.

Preview

- campussource-0.1.0.zip
- sdruskat-campussource-a46ecd3
 - README.md

49 Bytes

```
1 cff-version: 1.2.0
2 message: "If you use this software, please cite it as below."
3 authors:
4 - family-names: "Druskat"
5   given-names: "Stephan"
6   orcid: "https://orcid.org/0000-0003-4925-7248"
7 title: "CampusSource Example Deposit"
8 version: 0.2.0
9 doi: 10.5281/zenodo.1035710
10 date-released: 2022-03-16
11 url: "https://www.campussource.de/events/e2203hagen/#Programm"
```

March 16, 2022 Software Open Access

CampusSource Example Deposit

Druskat, Stephan

This is a release WITH a CITATION.cff file :tada:.

If you use this software, please cite it as below.

Preview

- campussource-0.2.0.zip
- sdruskat-campussource-1
 - CITATION.cff
 - README.md

Versions

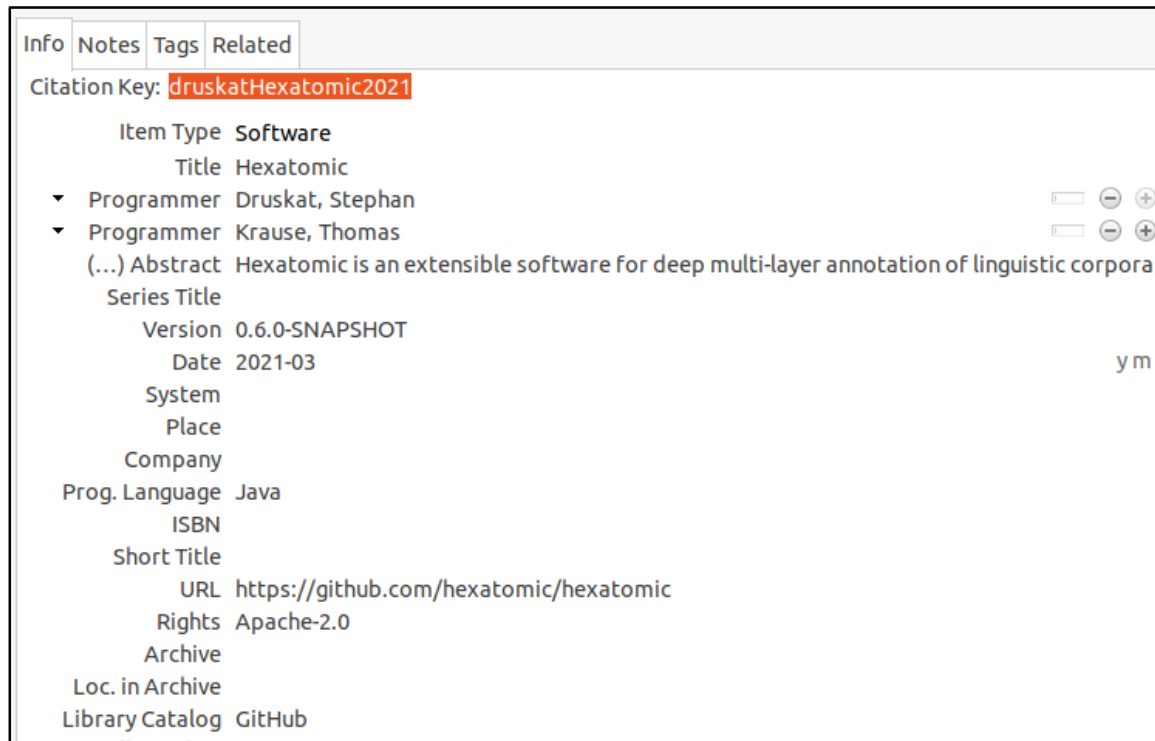
Version 0.2.0	Mar 16, 2022
10.5072/zenodo.1035737	
Version 0.1.0	Mar 16, 2022
10.5072/zenodo.1035711	

Cite all versions? You can cite all versions by using the DOI [10.5072/zenodo.1035710](https://doi.org/10.5072/zenodo.1035710). This DOI represents all versions, and will always resolve to the latest one. [Read more.](#)

Citation File Format reference managers



Import in Zotero from GitHub via browser plugin



Info Notes Tags Related

Citation Key: **druskatHexatomic2021**

Item Type Software

Title Hexatomic

Programmer Druskat, Stephan

Programmer Krause, Thomas

(...) Abstract Hexatomic is an extensible software for deep multi-layer annotation of linguistic corpora

Series Title

Version 0.6.0-SNAPSHOT

Date 2021-03

System

Place

Company

Prog. Language Java

ISBN

Short Title

URL <https://github.com/hexatomic/hexatomic>

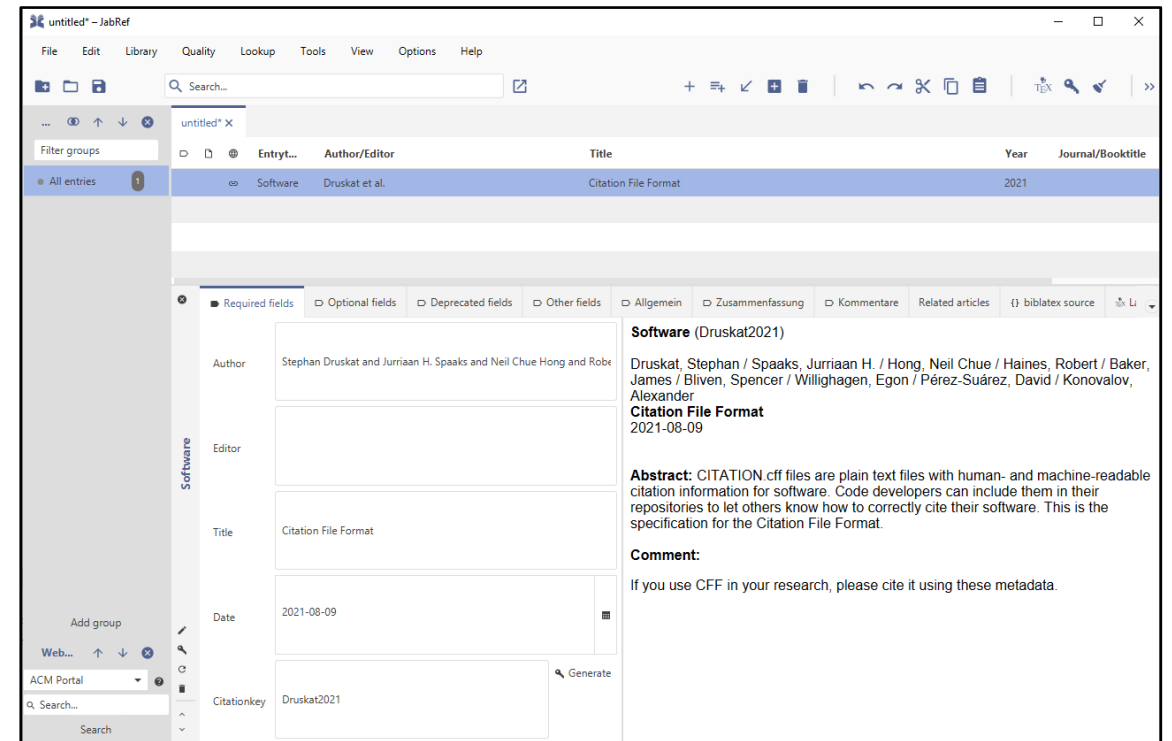
Rights Apache-2.0

Archive

Loc. in Archive

Library Catalog GitHub

Import in JabRef from **CITATION.cff** file



untitled* - JabRef

File Edit Library Quality Lookup Tools View Options Help

Search...

Filter groups	Entry...	Author/Editor	Title	Year	Journal/Booktitle
All entries	Software	Druskat et al.	Citation File Format	2021	

Required fields Optional fields Deprecated fields Other fields Allgemein Zusammenfassung Kommentare Related articles biblatex source Lu

Software (Druskat2021)

Author Stephan Druskat and Jurriaan H. Spaaks and Neil Chue Hong and Robert Baker, James / Bliven, Spencer / Willighagen, Egon / Pérez-Suárez, David / Kononov, Alexander

Editor

Title Citation File Format

Date 2021-08-09

Citationkey Druskat2021

Generate

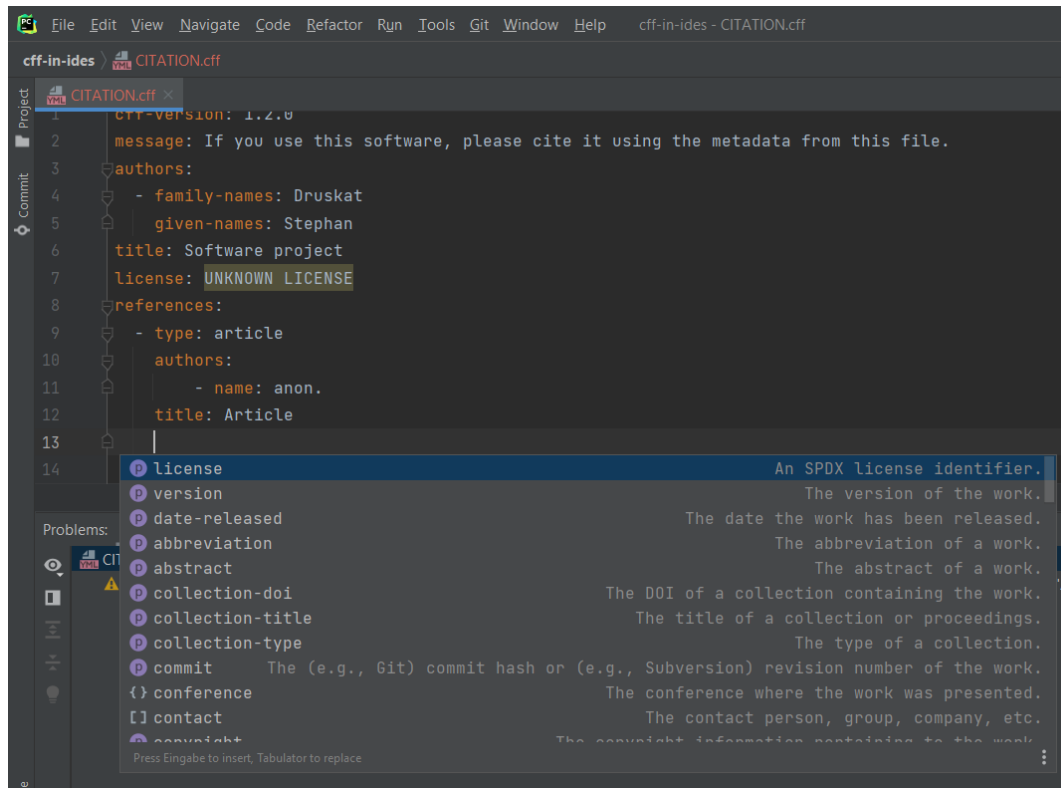
Abstract: CITATION cff files are plain text files with human- and machine-readable citation information for software. Code developers can include them in their repositories to let others know how to correctly cite their software. This is the specification for the Citation File Format.

Comment:
If you use CFF in your research, please cite it using these metadata.

Citation File Format IDEs



- Auto-complete and validation via JSON Schema / schemastore.org

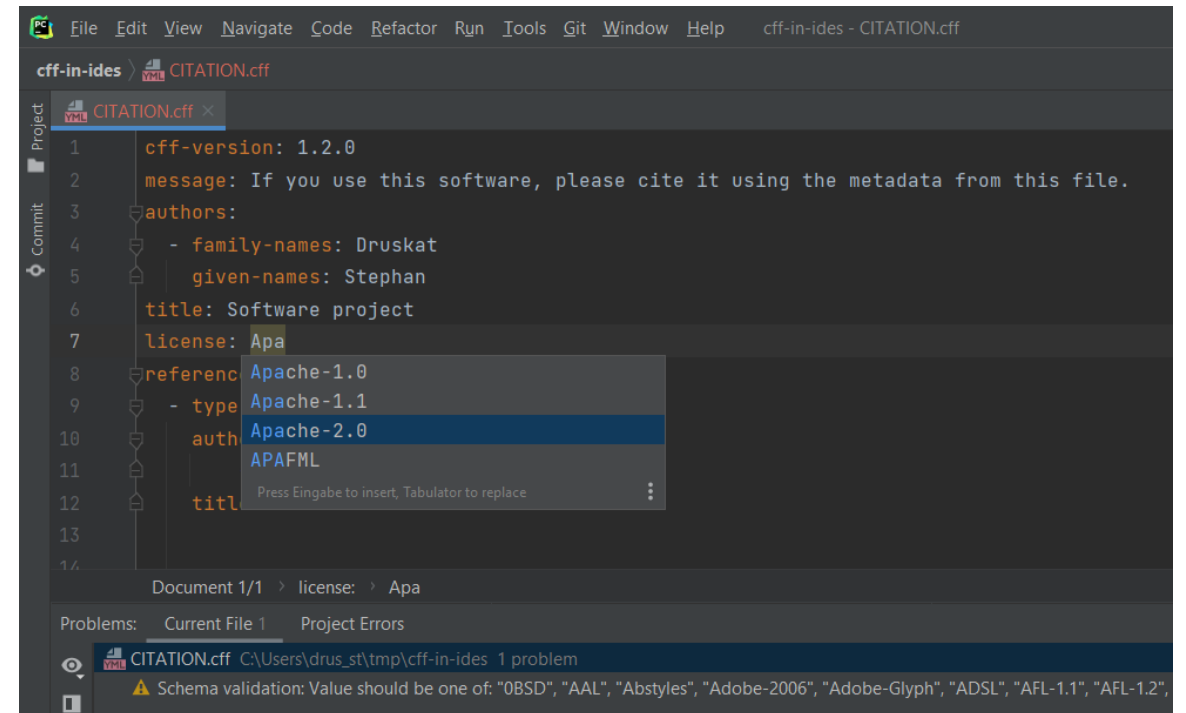


The screenshot shows an IDE window titled 'cff-in-ides - CITATION.cff'. The main editor displays a JSON citation file with the following content:

```
1 cff-version: 1.2.0
2 message: If you use this software, please cite it using the metadata from this file.
3 authors:
4   - family-names: Druskat
5     given-names: Stephan
6 title: Software project
7 license: UNKNOWN LICENSE
8 references:
9   - type: article
10     authors:
11       - name: anon.
12       title: Article
```

A dropdown menu is open over the 'license' field, showing a list of license identifiers with their descriptions:

- license: An SPDX license identifier.
- version: The version of the work.
- date-released: The date the work has been released.
- abbreviation: The abbreviation of a work.
- abstract: The abstract of a work.
- collection-doi: The DOI of a collection containing the work.
- collection-title: The title of a collection or proceedings.
- collection-type: The type of a collection.
- commit: The (e.g., Git) commit hash or (e.g., Subversion) revision number of the work.
- conference: The conference where the work was presented.
- contact: The contact person, group, company, etc.
- copyright: The copyright information pertaining to the work.



The screenshot shows the same IDE window as the previous one, but with a different dropdown menu open over the 'license' field. The dropdown menu shows the following options:

- Apache-1.0
- Apache-1.1
- Apache-2.0
- APAFML

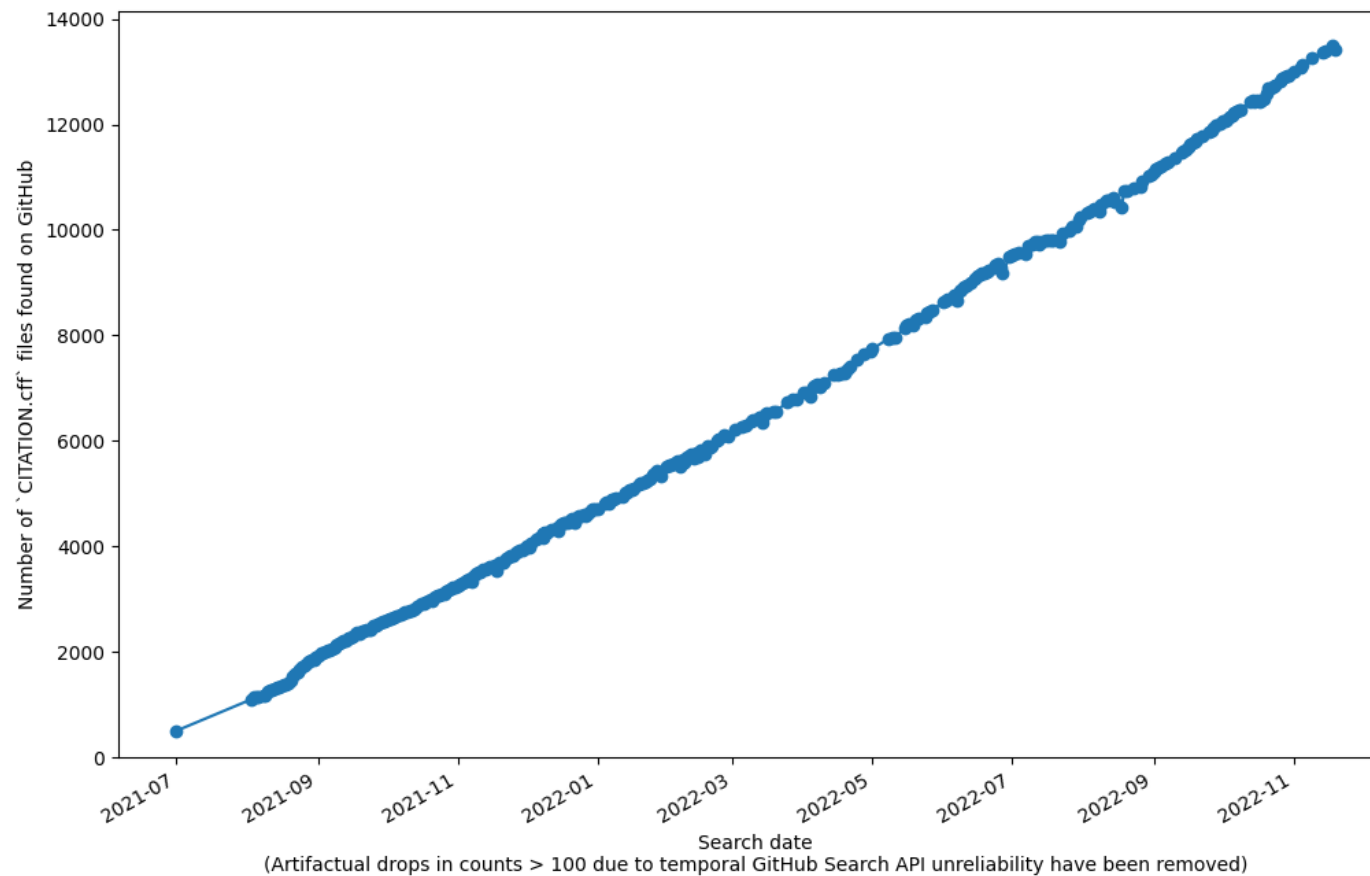
The 'Apache-2.0' option is selected. Below the dropdown menu, the text 'Press Eingabe to insert, Tabulator to replace' is visible. At the bottom of the IDE, a 'Problems' window shows a validation error:

```
Document 1/1 > license: > Apa
Problems: Current File 1 Project Errors
CITATION.cff C:\Users\drus_st\tmp\cff-in-ides 1 problem
Schema validation: Value should be one of: "0BSD", "AAL", "Abstyles", "Adobe-2006", "Adobe-Glyph", "ADSL", "AFL-1.1", "AFL-1.2",
```

How many CFF files are there?

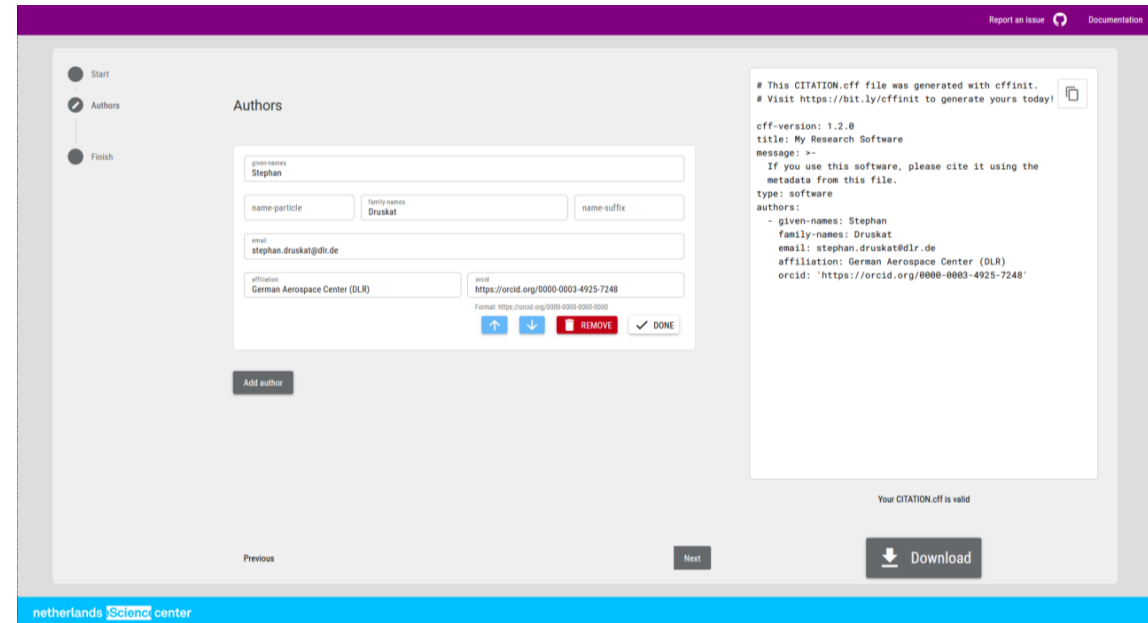
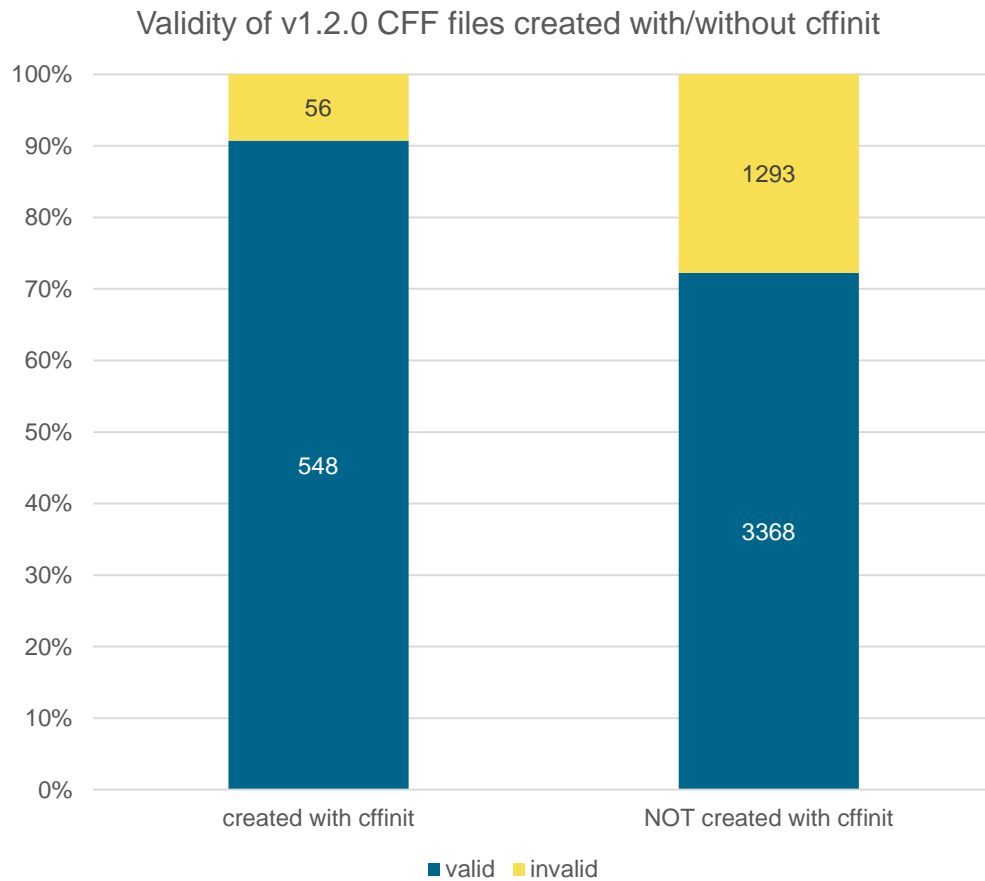


- On GitHub, as of yesterday (if the GitHub Search API is right): **13,419**



What do people's CFF files look like?

Does the CFF initialization website improve validity?



Take home message:

Use <https://bit.ly/cffinit> to create a CFF file for your software

Thanks!



Thanks to all contributors to the CFF project!

Thanks to the Software Sustainability Institute, Code for Science & Society, CampusSOURCE for funding!

Special thanks to Jurriaan H. Spaaks and Rob Haines!

Get in touch ...

<https://citation-file-format.github.io/>

<https://github.com/citation-file-format/citation-file-format>

(... with me)

stephan.druskat@dlr.de

Fediverse: [@sdruskat@scholar.social](https://sdruskat@scholar.social) |

ORCID: <https://orcid.org/0000-0003-4925-7248>