

# Making Biomedical Research Software FAIR with FAIRshare



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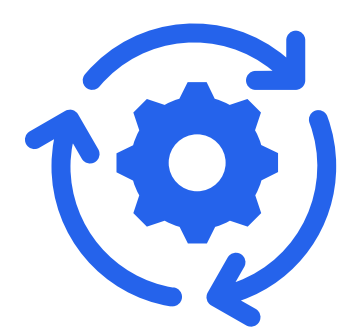
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## We all agree, biomedical research software must be made reusable

- Biomedical research software (Python scripts, R code, Jupyter notebooks, etc.) are integral part of research projects
- Making them reusable is therefore crucial to:



Ensure reproducibility of research results



Increase the pace of scientific progress

## Cool, what's the problem then?

- No actionable guidelines are available to make software reusable!
- The FAIR Principles for research software (FAIR4RS) only provide a general framework to optimize reusability
- 4,000+ biomedical-related repos created on GitHub in 2021:

97%

No license specified

100%

No high-level metadata files

## Solution: FAIR-BioRS guidelines

- First actionable guidelines for making biomedical research software FAIR as per the FAIR4RS Principles
- Based on a review of relevant literature and resources (including NIH guidelines)

### Step 1: Follow best practices during development

E.g., work from [GitHub](#), include a [README](#) doc, etc.

### Step 2: Collect files to share

Include the [source code](#) when possible

### Step 3: Include metadata files

Include the standard [codemeta.json](#) and [CITATION.cff](#) metadata files

### Step 4: Choose a license

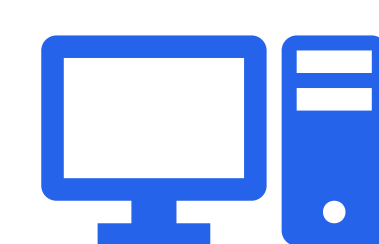
Use an [OSI-approved license](#), preferably MIT or Apache 2.0

### Step 5: Share software on a repository

Share on [Zenodo](#) or [Figshare](#) to obtain a DOI and make your software citable

Details are available in our preprint:  
<https://doi.org/10.1101/2022.04.18.488694>

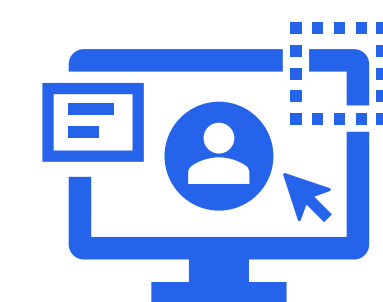
## User-support tool: FAIRshare



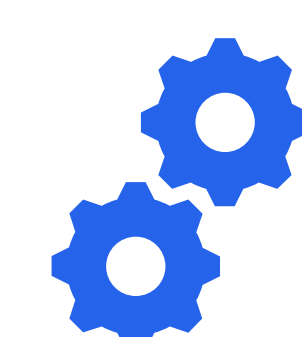
Open source, free cross-platform desktop software



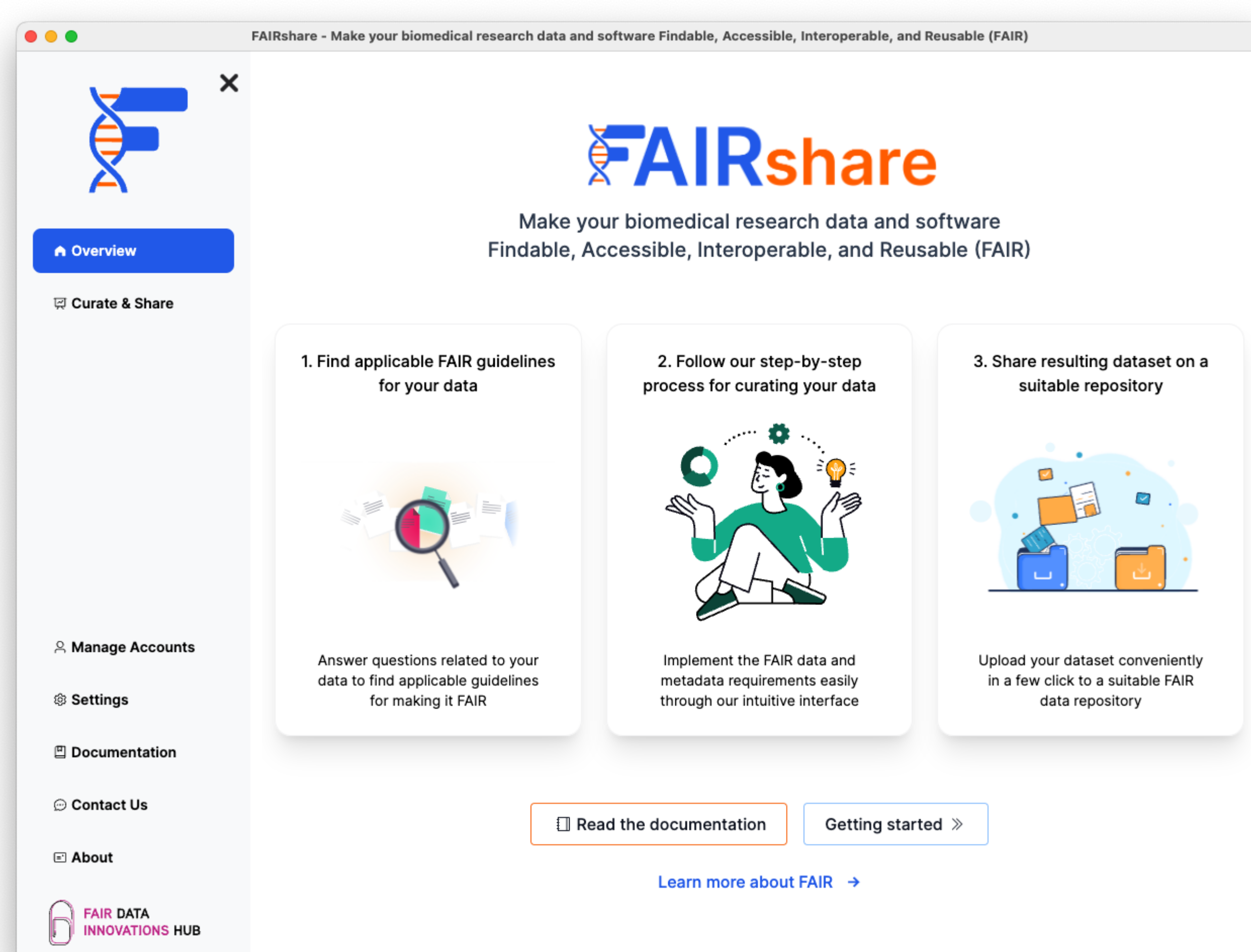
Goal: Simplify the process of implementing the FAIR-BioRS guidelines for researchers



How? Guide users through the process step-by-step via an intuitive user interface



Include automation to take-over time-consuming and complex tasks



*Like a tax filling tool but for “filling” FAIR research software and data*

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