figshare • Mechanical Engineering

Sharing raw data to build upon research

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Key Points

- **Raw data and reuse**
  Sharing the raw data is important for reproducibility.
- **Reusable code**
  Making the code reusable helps other researchers build upon your work.
- **DOIs for persistence**
  DOIs are persistent for citations.

About Peter

When I first saw figshare, I thought it would be a really good place to put experimental data. The first project was an experimental dataset measuring the performance and near-wake of a turbine in a tow-tank. We used that in combination with GitHub to put all of the data and code from that project into a Git repository, zipped it up, and put it on figshare to get the DOI to cite in the papers we were writing about it.

Sharing raw data to "pick up where we left off"

For the same project, I made a secondary repository on figshare for uploading all the raw data, using it like an ad hoc database. All of the data was stored in smaller files so I could put it all up on figshare and download it a little bit at a time if I knew what the URL of each individual file was. That still works, which is cool. figshare provides a nice, persistent way of putting that raw data up. Other than that, I've been putting up almost everything that I can think of like CAD files of the turbine geometry and bits of code from configuration files from doing simulations. Basically everything that I can imagine that might help someone be able to pick up from where we left off.

"I also...made a secondary repository on figshare for uploading all the raw data - kind of using it like an ad hoc database...Basically everything that I can imagine that might help someone be able to pick up from where we left off."

UNH-RVAT CAD models

Sharing code to build upon research

It's kind of a selfish motivation, in a way, that I would always be reading these papers and thinking, "Wow, alright, these guys are getting some really cool results [from simulations]. I wish I could obtain their code and build upon it". I always email the authors and it's very common that they say the code is too messy or it's not good enough. So, I was looking to avoid that and make it easy for someone to build on anything we did. I think it's kind of silly to do the research and not give everyone what they need to push it a little bit further.

DOIs as persistent citations

Persistence is important when it comes to sharing data - that's why I'm not using GitHub URLs in citations because that could change. Having the DOIs seems like the safest bet in terms of something that will last.

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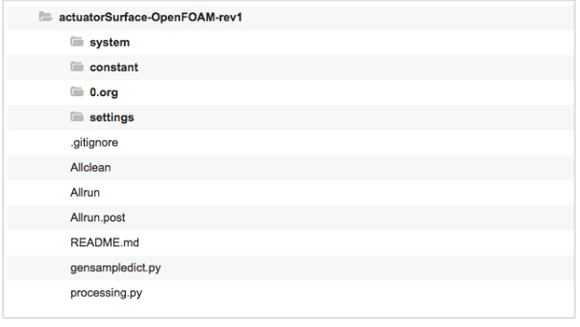

OpenFOAM cylindrical actuator surface case files

Get in touch:

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