Pegasus Users Group
MEETING

Pegasus is funded by the National Science Foundation under grant #1664162
“…collections of workflows exist but do not come with any execution capabilities…”

Workflows Community Summit, Jan 2021

inspired by:

nf-core  

WorkflowHub
PegasusHub
A Community-enabled Workflows Repository for Pegasus

PegasusHub provides a curated collection of open source Pegasus workflow repositories hosted at GitHub. Currently, the hub hosts 10 workflow repositories.

Recent Repositories

- **diamond-workflow**
  - Pegasus Diamond Workflow
  - 23 Feb 2021

- **freesurfer-osg-workflow**
  - A Pegasus workflow for running FreeSurfer on the Open Science Grid
  - 23 Feb 2021

- **lung-instance-segmentation-workflow**
  - Instance segmentation with U-Net/Mask R-CNN workflow using Keras & Ray Tune
  - 23 Feb 2021

- **pipeline-workflow**
  - Pipeline workflow example
  - 23 Feb 2021

A Community-enabled Workflows Repository for Pegasus

*** To be officially released with Pegasus 5.1
montage-workflow-v3

A Montage workflow for Pegasus 5.0

Latest Release: No-release available
Pegasus Version: 5.0
Dependencies: Montage 6.0, Astropy 1.0
License: Apache License 2.0
GitHub Repository: https://github.com/pegasus-hc/montage-workflow-v3
Topics: astronomy

NOTE: This is a Montage workflow version which requires Pegasus 5.0. For a version that works with Pegasus 4, please use montage-workflow-v2.

A new Python SAG: generator version of the classic Montage workflow. This workflow uses the Montage toolkit to re-project, background correct and add astronomical images into custom mosaics.

Prerequisites:
- Pegasus: version 5.0 or later
- Montage: version 6.0 or later
- Astropy: version 1.0 or later

Plan a Montage Workflow:

The montage-workflow.py Python script sets up a data/directory with a Pegasus DAG, image tables and region headers. For example:

```
./montage-workflow.py --center "56.7 24.0" --degrees 1.0

--band das:0:0:blue --band das:0:0:green --band das:0:0:red
```

This will create a 2x2 degree mosaic centered on 56.7 24.0, with 3 bands making up the red, green, and blue channels for the final JPEG output. A 2-degree workflow has a lot of input images and thus the workflow becomes wide. A simplified version of the workflow looks like:

Collection of metadata maintained by the workflow developer
- workflow releases
- dependencies
- license
- example usage

Automated collection of GitHub metrics including issues, stargazers, contributors, etc.
Pegasus-enabled workflow
GitHub repository

.source-code documentation
running simple example metadata

.pegashub.yml workflow metadata

registered via GitHub pull requests

pull requests are evaluated by the Pegasus team

GitHub Actions

runs upon commits and cron jobs (every 6 hours)

PegasusHub

curated collection of open-source workflows
diamond-workflow
Pegasus Diamond Workflow

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<thead>
<tr>
<th>Latest Release</th>
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<tr>
<td>Pegasus Version</td>
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PegasusHub

training workflows

pegasus-init

generates example workflows, ready to be executed on common execution environments
If you are a current or future Pegasus user, you are invited to contribute to the PegasusHub!

Start contributing today by reaching out to us on Slack or via pegasus@isi.edu
Thank You!