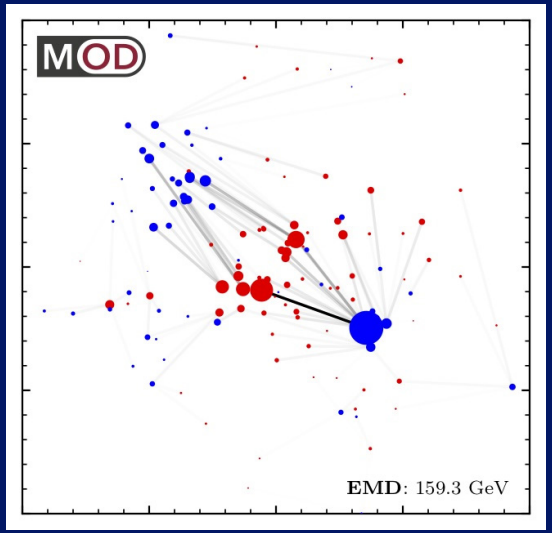
REPACKAGING JET SUBSTRUCTURE OBSERVABLE TOOLS

A PROJECT BY JORDAN ASHLEY,
GUIDED BY DR. MATTHEW FEICKERT
AND DR. HENRY SCHREINER

THE TOOLS



Wasserstein

A C++ LIBRARY WITH SWIG PYTHON BINDINGS USED TO CALCULATE WASSERSTEIN DISTANCES.

EnergyFlow

A MUCH LARGER, PURE-PYTHON LIBRARY WITH MULTIPLE ANALYSIS AND VISUALIZATION TOOLS TARGETING JET SUBSTRUCTURE.

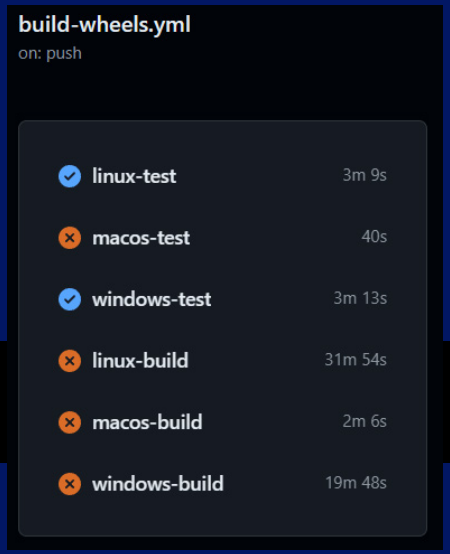
image from
https://energyflow.network/

wasserstein distance a distance metric used to evaluate probability distributions
https://arxiv.org/abs/1902.02346

THE PROJECT

REPACKAGING

THE CI/CD FOR BOTH PROJECTS NEEDS MAINTENANCE.



Scikit-build-core

CI/CD continuous integration/continuous distribution

THE BUGS

WASSERSTEIN

Windows

- worked to start
- patched with windows-2019
- windows-latest works again

MacOS

- macos-latest == macos-14
- Apple Clang

OpenMP

- parallel computing 
- installation 

parallel computing breaks tasks into "threads" that can be ran independently and simultaneously

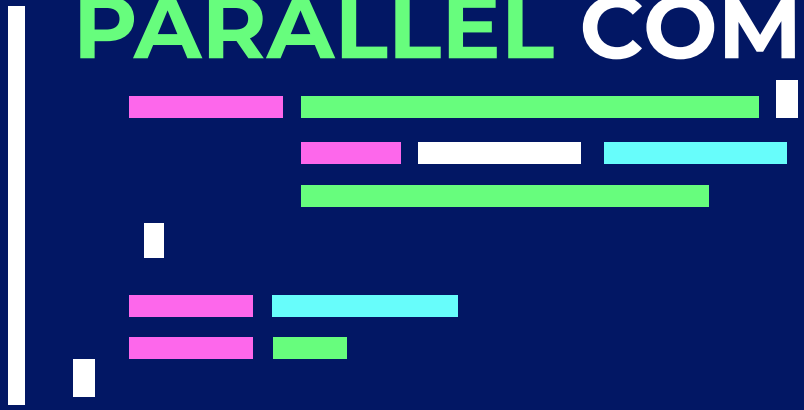
THE PROJECT

TIMELINE

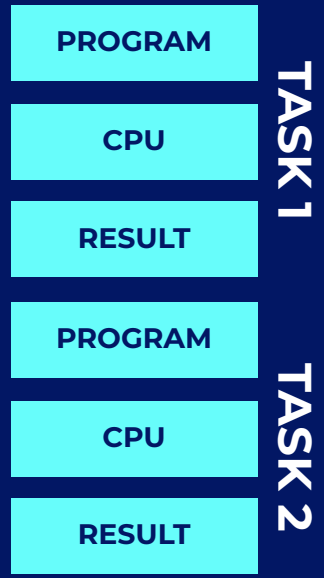
Thank you!

Back-up slides

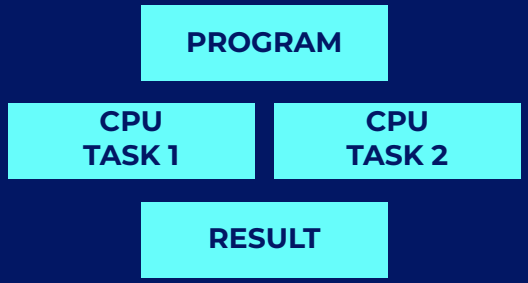
PARALLEL COMPUTING



SEQUENTIAL

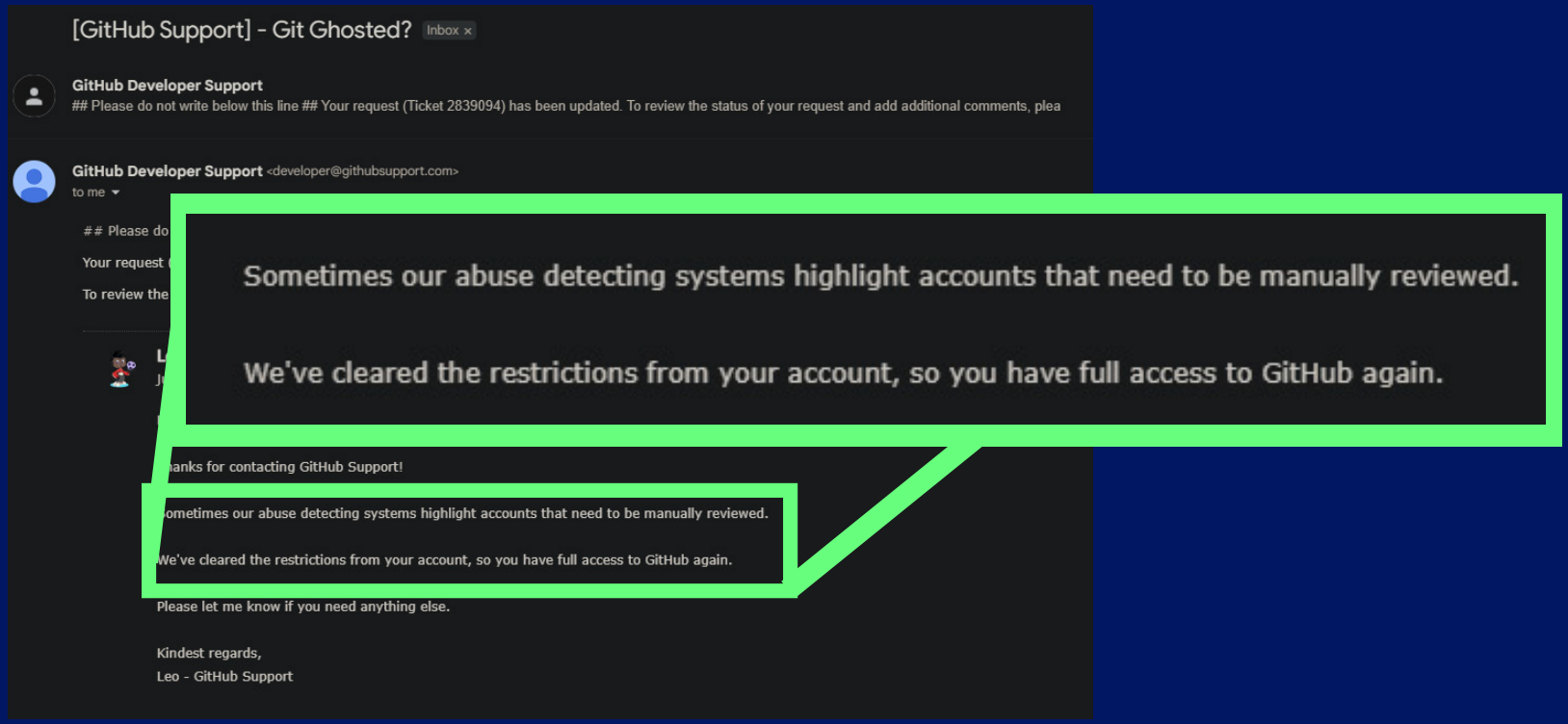


PARALLEL

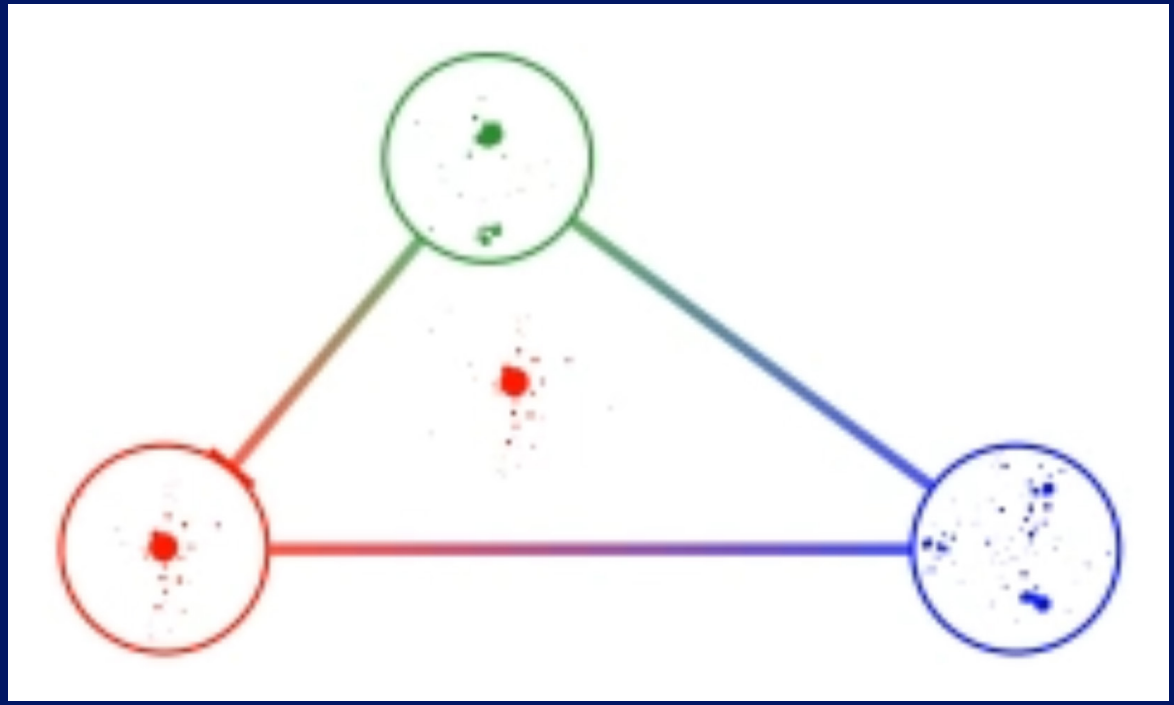


parallel computing breaks tasks into "threads" that can be ran independently and simultaneously

BONUS


[GitHub Support] - Git Ghosted?
Inbox ×
GitHub Developer Support
Please do not write below this line ## Your request (Ticket 2839094) has been updated. To review the status of your request and add additional comments, plea
GitHub Developer Support <developer@githubsupport.com>
to me
Please do
Your request
To review the
Sometimes our abuse detecting systems highlight accounts that need to be manually reviewed.
We've cleared the restrictions from your account, so you have full access to GitHub again.
anks for contacting GitHub Support!
ometimes our abuse detecting systems highlight accounts that need to be manually reviewed.
We've cleared the restrictions from your account, so you have full access to GitHub again.
Please let me know if you need anything else.
Kindest regards,
Leo - GitHub Support

Wasserstein Distance



video from
https://energyflow.network/docs/emd/