Baler weekly meeting

2023-06-19

New meeting

- A lot of new collaborators require some changes
- We've picked a new meeting date/time, which is mondays at 15:00 CEST
- We will try a new meeting structure in the form of a round table

- 5 main baler projects
  - Development-baler
    - Fritjof, Aman
  - Sustaina-baler
    - Leonid, Manas, Ivan, Akshat
  - FPGA-baler
    - Josie, Mayaan, Antonio
  - CFD-baler
    - Marta
  - HEP-baler
    - Pratik, Axel, Nicole
  - Misc:
    - Alex, Caterina, Alma, Khwaish

To-do

- Fix bad performance on Main branch
- Implement error bounded compression
- Implementation of "safe" variables

- CHEP Conference Proceedings
- HEP Publication
- CFD Publication
- Reaching out to industry
- Compression on FPGAs
- CO_2 equivalents

Round table

- What did you do last week?
- What are you going to do this week?
- Is anything blocking you to do this?

Alex

- Last week:
  - I met with Fritjof in Stockholm to get started on the work to add Baler to the Debian repository and Homebrew
  - Discussed with Alma about future industry collaborations
  - I made the Baler "one page promo" into a proper github website:
    - https://baler-collaboration.github.io/
  - I attended the Swedish "Physics Days" conference in Stockholm and presented a poster there together with Axel:
    - https://docs.google.com/presentation/d/1FhwW8IMO3Bm_DvAHE6tmT29hPSChSVwpL_BIF0zwWv4/edit?usp=sharing
  - Cleaned up the backlog and GitHub projects

Alex

- This week:
  - Be more active on GitHub
  - Contact Ericsson in Lund, and Northvolt in Stockholm regarding possible collaboration
  - Meet one-on-one with Fritjof, Aman, Leonid, and Axel
  - Meet with the FPGA group
  - Set up indico for future meetings
  - Share GB file with Leonid
- Blockers:
  - Atlassian has not replied to my email regarding free Jira

Fritjof

- Last week:
  - Github, Debian repository and Homebrew
- This week:
  - Looking into brew
  - PRs on Github
- Blockers:

Aman

- Last week:
  - 3D convolutional neural network on 2D CFD animation
    - Normal and batch normalization
  - Not great results
- This week
  - Debugging
  - Integrating spark code
- Blocker:
  - NAISS user agreement (LUNARC)

Leonid

- This week:
  - Setting up account
  - Summarize the literature review
  - Energy cost estimation
  - Present findings next meeting
  - Test Profiler for CPU/GPU usage
  - Power usage per data movement, power usage per layer
  - Which indicator is the most relevant
  - Found best practices form google

Manas

- Last week:
  - Google sheet of readings and summaries
  - Presentation prepared for wednesday
- This week:
  - Make presentations
  - Set up Baler on M1 Mac
    - Preferably using Poetry
- Blockers
  - Problems with M1, help form Fritjof

Josie

- Last week:
    - Organising meeting for FPGA group
    - Thursday or Friday
    - Downloaded baler
- This week:
    - Focusing on main project
    - Run baler

Mayaan

- Last week:
  - Finished Baler tutorial
    - Error during decompression,
  - Implemented smaller model and tau dataset
  - Implemented function to run on HLS4ML, got some errors and will submit issue
- This week:
  - Check that the current implementation works
  - Create Pull request of new functions
- Blockers:
  - HLS4ML does not support leaky relu

Marta

- Last week
  - Conference
  - Contacted Cummings, a lot of CFD data to test
  - Contacted Knowledge exchange at UoM
- This week
  - 3D single frame
  - 3D time series
- Blockers
  - Reply form Cummings

Pratik

- Last week
- This week
  - Request for separate HEP discussion for publication
  - Meeting this week

Axel

- Last week: Physics day conference. Nice comments on Baler overall and plenty of interest
  This week: Get all my plotting scripts public on my fork & meet with Alex
  Blockers: No Blockers

Nicole

- Last week
  - Meeting with Luis, business coordinator at UoM
  - One page promo
- This week
  - Trying to meet with Anya for a collaboration on turbines
- Blockers
  - Cyber incident at UoM

Caterina

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