

(Short) Neurotrigger Software Status update

S. Baehr, J. Becker, T. Jülg, C. Kiesling, A. Knoll, A. Lenz, P. Luger, F. Meggendorfer, S. Skambraks, K. Unger

Current PRs:

- **Feature/[BII-8044](https://stash.desy.de/projects/B2/repos/basf2/pull-requests/1103/overview) neurotrigger dqm update main**
<https://stash.desy.de/projects/B2/repos/basf2/pull-requests/1103/overview>
add new DQM, need to resolve the Issue with missing Recotracks on the HLT
- **Feature/[BII-8755](https://stash.desy.de/projects/B2/repos/basf2/pull-requests/1467/overview) neurotrainer external training 2**
<https://stash.desy.de/projects/B2/repos/basf2/pull-requests/1467/overview>
add new train data generation, needs style fixes
- **Feature/[BII-9562](https://stash.desy.de/projects/B2/repos/basf2/pull-requests/1428/overview) neurotrigger training new**
<https://stash.desy.de/projects/B2/repos/basf2/pull-requests/1428/overview>
integrate external training to basf2, needs new readme and example script
- **Feature/[BII-9526](https://stash.desy.de/projects/B2/repos/basf2/pull-requests/1180/overview) tsf add trueLrt**
<https://stash.desy.de/projects/B2/repos/basf2/pull-requests/1180/overview>
create a LUT for recotrack related L/R-positions of TS, needs small fix discovered by Yuxin Liu (thanks!)
- **Feature/[BII-9709](https://stash.desy.de/projects/B2/repos/basf2/pull-requests/1465/overview) trg timing 2**
<https://stash.desy.de/projects/B2/repos/basf2/pull-requests/1465/overview>
change standard script options, no interference with TSIM
- **Feature/[BII-9710](https://stash.desy.de/projects/B2/repos/basf2/pull-requests/1466/overview) trg scripts**
<https://stash.desy.de/projects/B2/repos/basf2/pull-requests/1466/overview>
update neurotrigger scripts, needs some additional updates after testing

Improving the Z Resolution

- Step 1: Recreate training results from previous training with new (merged) preprocessing software
→ until christmas
- Step 2: Train network on newer / more data and reduce downfeed and upfeed
→ until christmas
- Step X: Improve the Z resolution further below 2cm by :
 - different timings
 - training on subsamples of data
 - using upsampling to change training data distributions
 - use a new TSLUT to adjust for higher backgrounds
 - use the 3DFinder to reduce off-IP background
→until end of LS1