

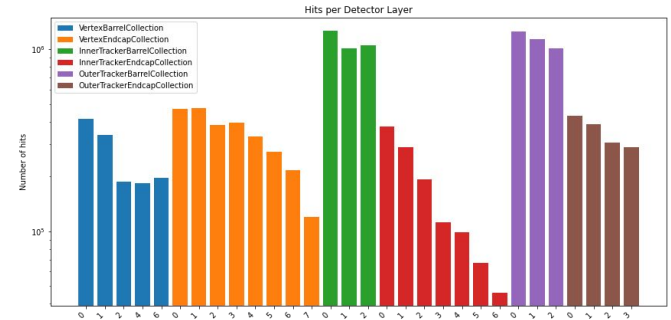
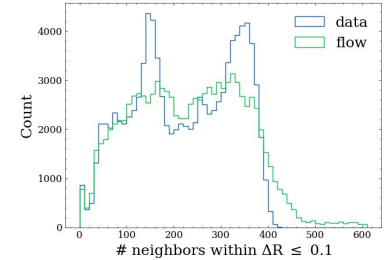
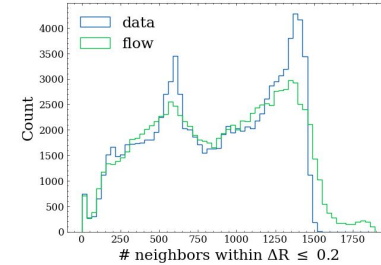
Update: GenAI for BIB Team

03/27/2026

Radha Mastandrea

Progress so far

- We have an “acceptable” procedure to assign cell IDs to BIBAI hits
- We have metrics to evaluate the BIB samples
 - # of neighbors within radius R
 - # of hits / detector layer
- We are training on the endcap collections as well
 - Now we have models for the Vertex, Inner Tracker, and Outer Tracker endcaps + barrels (6 total)



Blocks so far / Open tasks

- Getting an optimal model architecture (possibly aided by Shiyu Peng @ Brown)
 - Currently the endcap models have a fairly high ROC AUC
 - The r-phi structure is fairly complex due to the detectors having discrete modules. Maybe more training data will help...
 - ...but we may want an additional function than “snaps” BIB AI samples to the allowed module positions.
- More downstream metrics – what would the community need for a minimum viable paper?
- Evaluating the samples in LCIO format with the proper digitization + reconstruction code