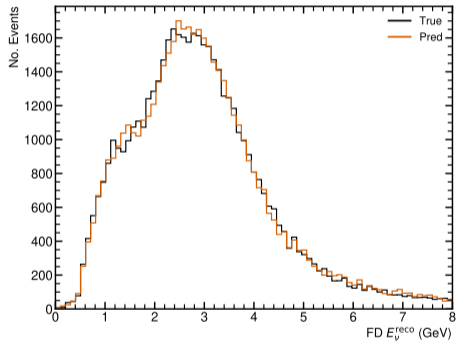


Reco Translation Model Update

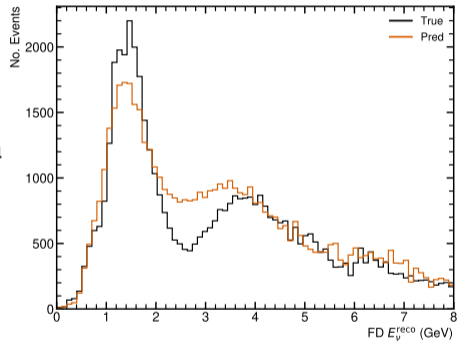
Alex Wilkinson

08 November 2024

The Problem

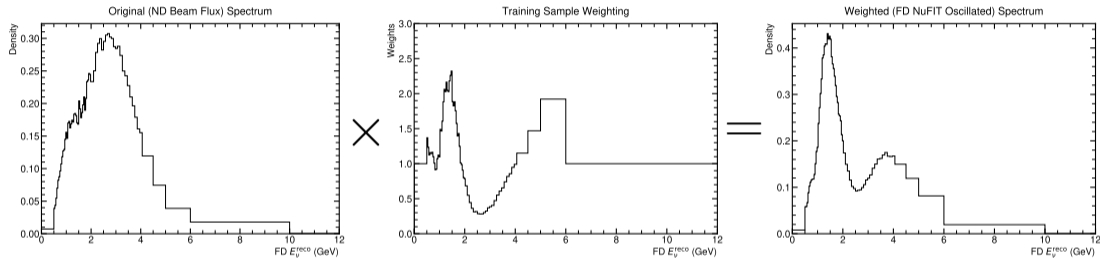


Weight test data
→



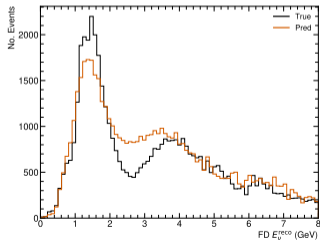
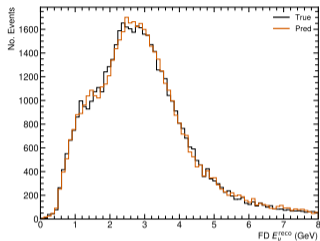
- ▶ The ND reco is not enough to determine the exact value of the FD reco nu energy
 - The model is learning to predict the PDF of the FD reco nu energy given a set of ND reco variables
 - The shape of this PDF gets influenced by the distributions of FD reco nu energies in the training dataset
- ▶ This may not be a problem when moving to full ND reconstruction rather than parametrised
- ▶ Short-term solution:
 - Weight the training of the model to the NuFIT oscillated FD spectrum
- ▶ Long-term solution:
 - Generate the paired dataset in a uniform flux

Sample Weighting During Training



Weight each training sample's contribution to the loss using this histogram

Non-Weighted Training



Weighted Training

