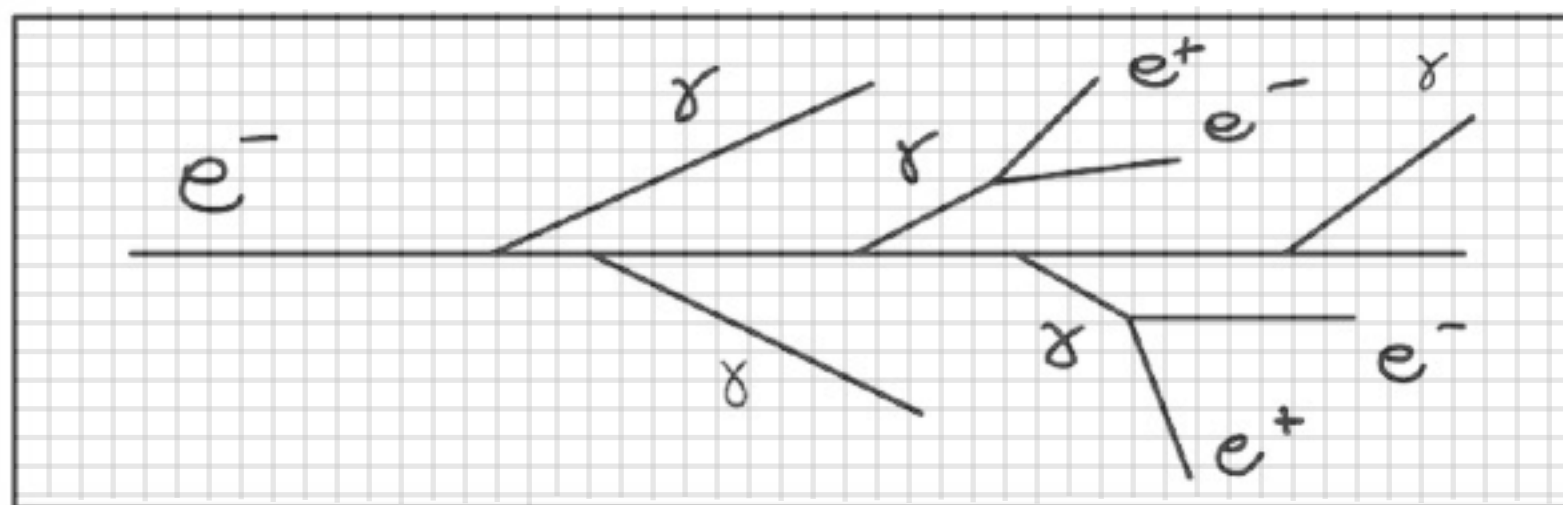


# Pre-Training

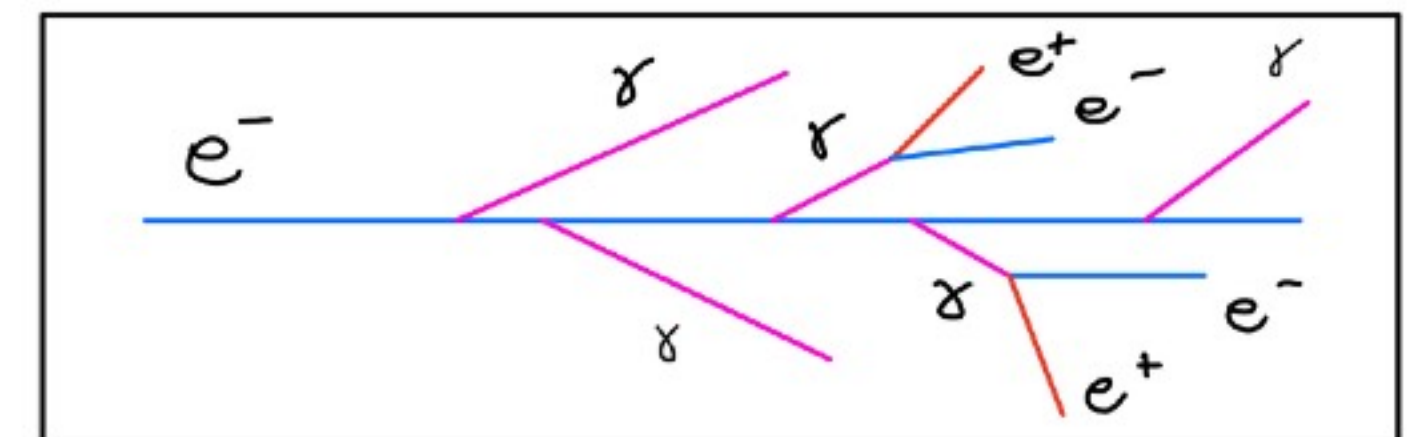
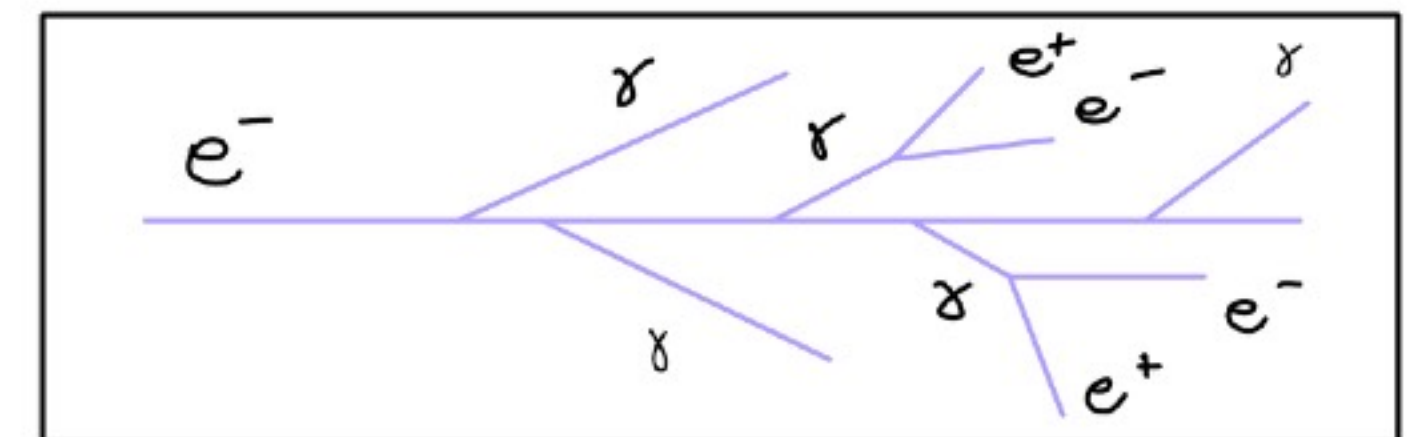
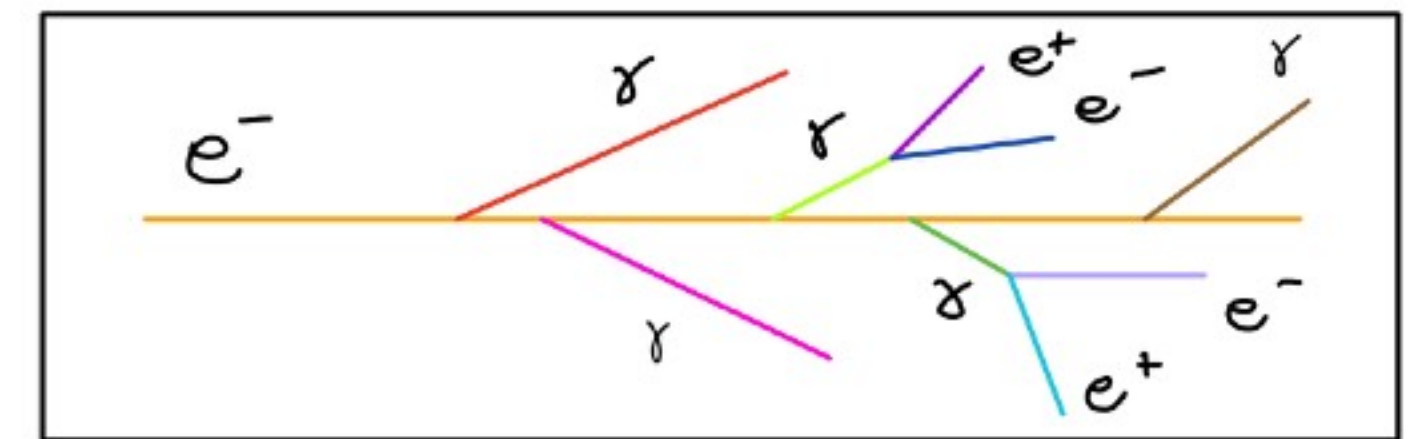
## Machine Learning Inputs

- Voxel Energy - Global Event Features - [Voxel ID Labels](#)

Toy Representation EM Shower



- ***hit\_track\_id***: Groups hits from the *same particle* as it propagates.
- ***hit\_primary\_id***: Groups *all hits* that descend from the *same primary particle*.
- ***hit\_pdg***: physics-based grouping, groups hits by PDG code.



# Pre-Training

## The Model

