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**Experience**:

- Evaluating how well Pandora Particle Flow Algorithm (PFA) reconstructs electrons within the MAIA detector environment
  - Analysis of the above was done by characterizing EM shower development and E/p distributions
- Optimized Pandora PFA electron ID algorithm
  - Implementation yielded a **~20% efficiency increase** in electron identification
- Generating particle samples using the full simulation (DD4hep) and reconstruction (Marlin) chain.

**Skills:**

- DD4Hep
- Pandora PFA
- Marlin and Key4hep

**Going forward:**

- Study how the optimized electron algorithm affects identification of charged pions
- Quantify how calibration of the calorimeters would improve reconstruction efficiency