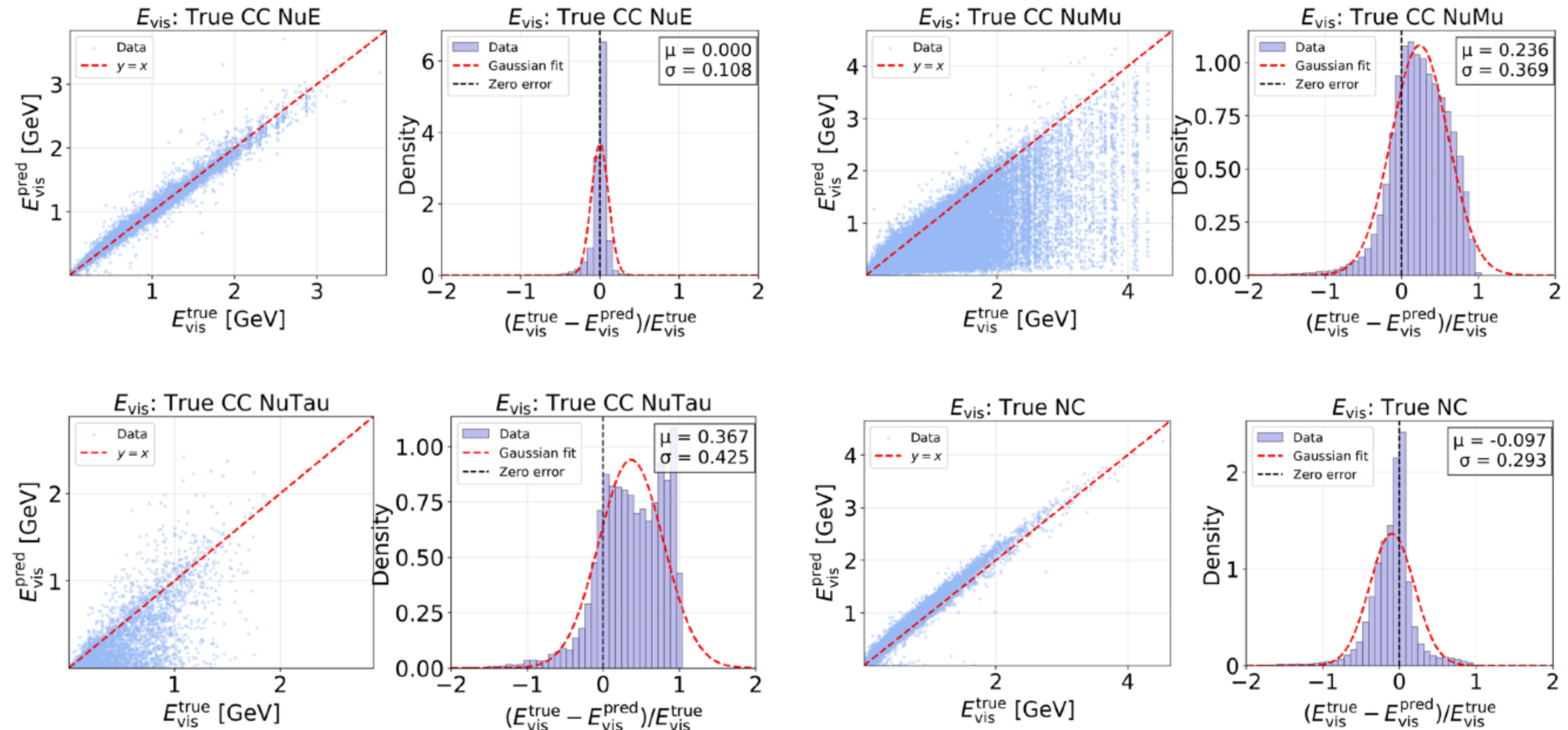# Deep Learning Model: Visible Energy

Regression Results

- **E_vis**: magnitude of `visible_momentum`

  - For CC it corresponds to Incoming Neutrino Energy.
  - For NC it corresponds to Hadrons Energy.

- Remarkable improvement in energy reconstruction:

  - Eliminated bias for ν_e CC.

  - The resolution is almost _halved_ for all classes.

Deep Learning Model: p_T^{miss}

Regression Results

*BDT Results

- **pt_miss**: magnitude of x,y components `visible_momentum.`

- **Resolving the p_T^{miss} Dilemma:** Pre-Train finds a much more physically robust solution to the bimodal distribution.

  - Excellent, low-bias prediction for ν_e and ν_μ.

  - Simultaneously improving prediction for high-p_T^{miss} NC and ν_τ classes.

- Superior understanding, but still with remarkable bias.