XGBoost output, 2HDMa a150 H1250 tb30 ee dataset, uscaled validation data Background Signal  $10^{6}$  $10^{5}$  $10^{4}$ Events 10<sup>3</sup>  $10^2$  $10^{1}$ 10<sup>0</sup> 0.2 0.4 0.0 0.6 8.0 1.0 XGBoost output