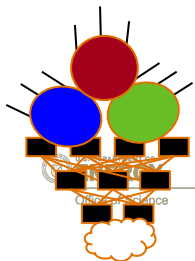




GELATO Update 2/02/24

Liam Sherman



Keras VAE Functional

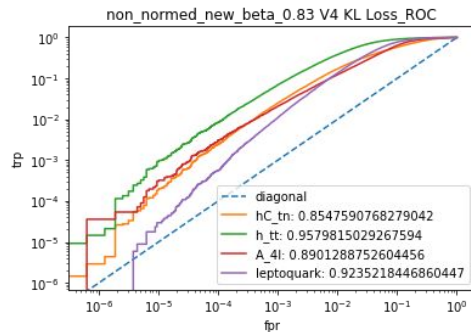
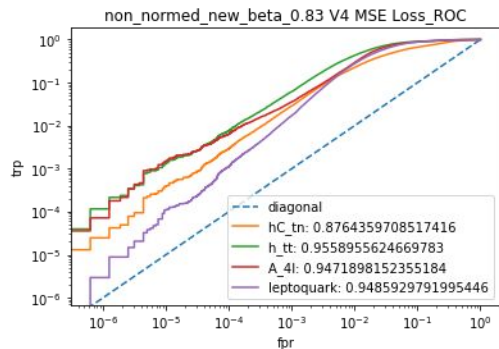


TABLE I. Performance assessment of the CNN and DNN models, for different AD scores and different new physics benchn scenarios.

Model	AD score	TPR @ FPR 10^{-5} [%]				AUC [%]			
		LQ $\rightarrow$ b τ	A $\rightarrow$ 4 ℓ	$h^\pm \rightarrow \tau\nu$	$h^0 \rightarrow \tau\tau$	LQ $\rightarrow$ b τ	A $\rightarrow$ 4 ℓ	$h^\pm \rightarrow \tau\nu$	$h^0 \rightarrow \tau\tau$
CNN VAE	IO	0.06	3.28	0.10	0.09	92	94	95	85
	D _{KL}	0.05	2.85	0.07	0.14	84	85	86	71
	R _s	0.05	2.53	0.06	0.12	84	85	86	71
CNN AE	IO	0.09	6.29	0.10	0.13	95	94	96	85
DNN VAE	IO	0.07	5.23	0.08	0.11	93	95	95	85
	D _{KL}	0.07	5.27	0.08	0.11	92	94	94	81
	R _s	0.06	4.05	0.07	0.10	86	93	88	76
DNN AE	IO	0.05	3.56	0.06	0.09	95	96	96	87

CNN AE

DNN AE

Current Results

