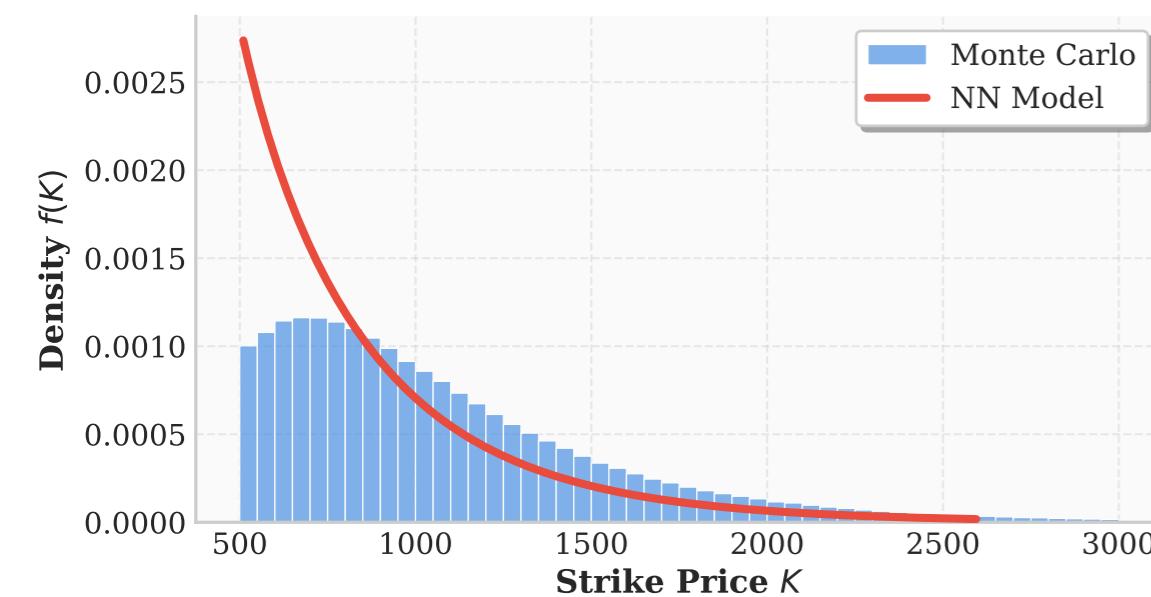


PDF Analysis: Neural Network Synthetic Local Volatility Model

Monte Carlo with $dS_t = rS_t dt + \sigma_{NN}(t, S)S_t dW_t$

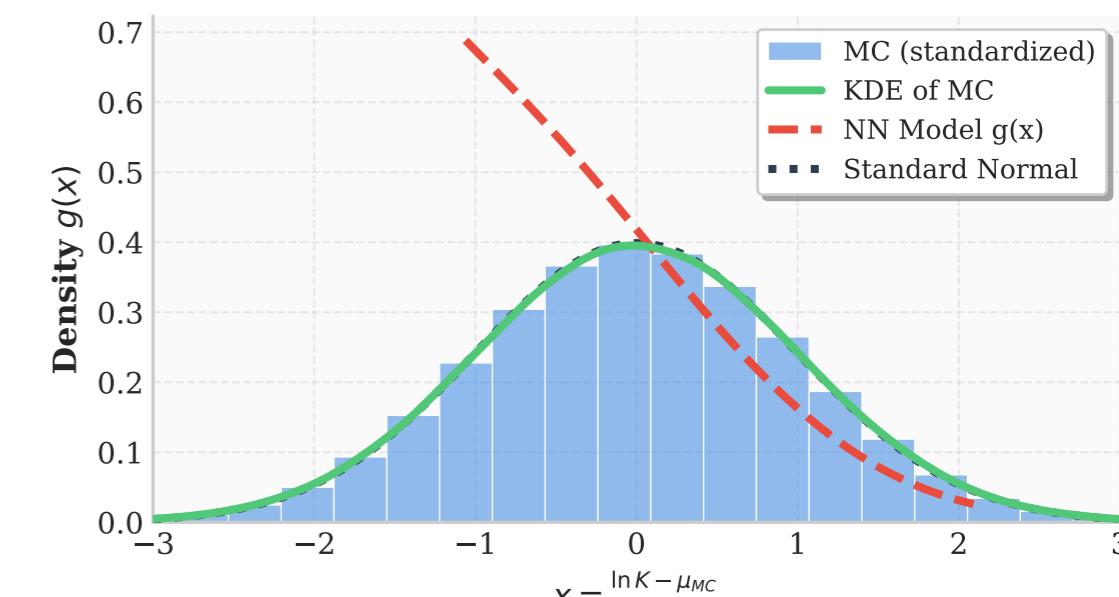
Strike Distribution ($T = 0.25$)



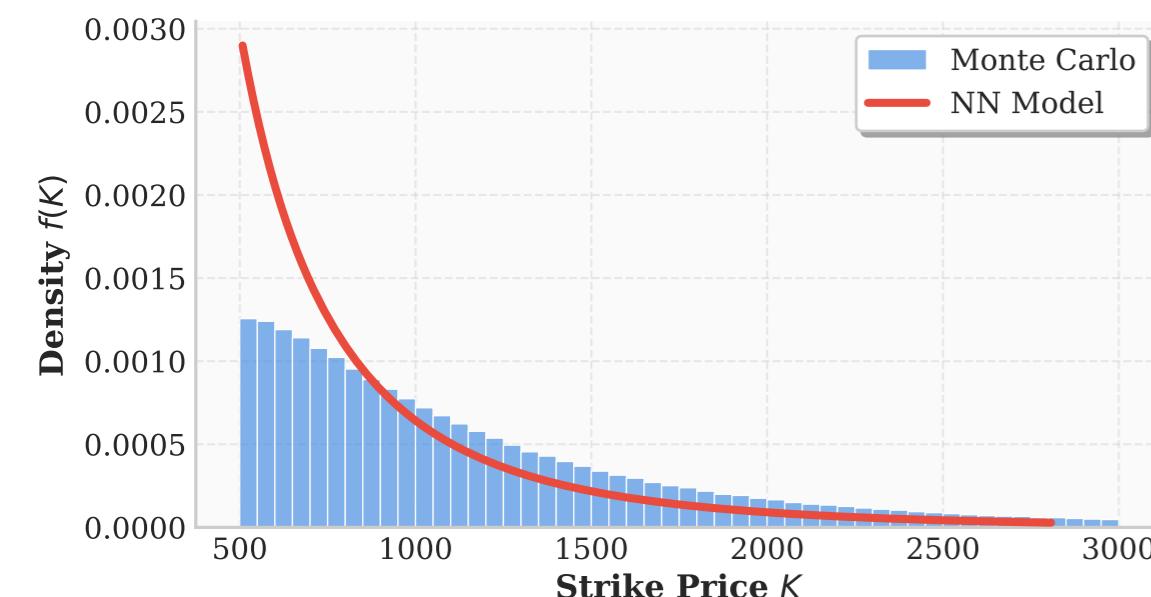
Log-Normal Distribution ($T = 0.25$)



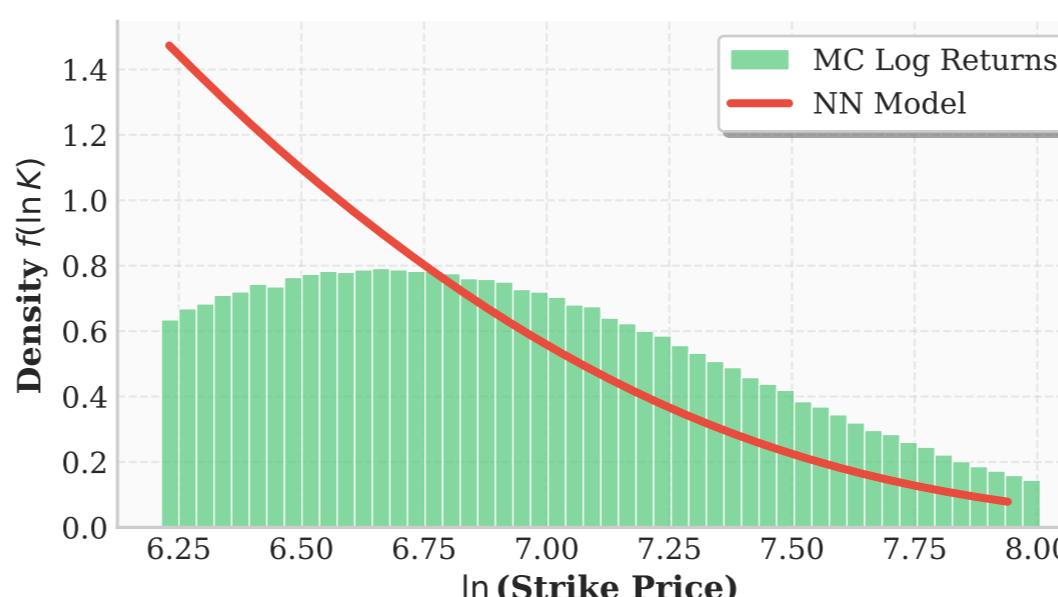
Gaussian Space ($T = 0.25$)
 MC Standardization: $\mu_{MC}=6.79, \sigma_{MC}=0.50 \rightarrow x_{MC} \sim N(0,1)$
 Model Fit: $\mu_{model}=6.72, \sigma_{model}=0.41$
 MC Stats: $\mu=0.00, \sigma=1.00, \text{Skew}=-0.01, \text{ExKurt}=-0.00$



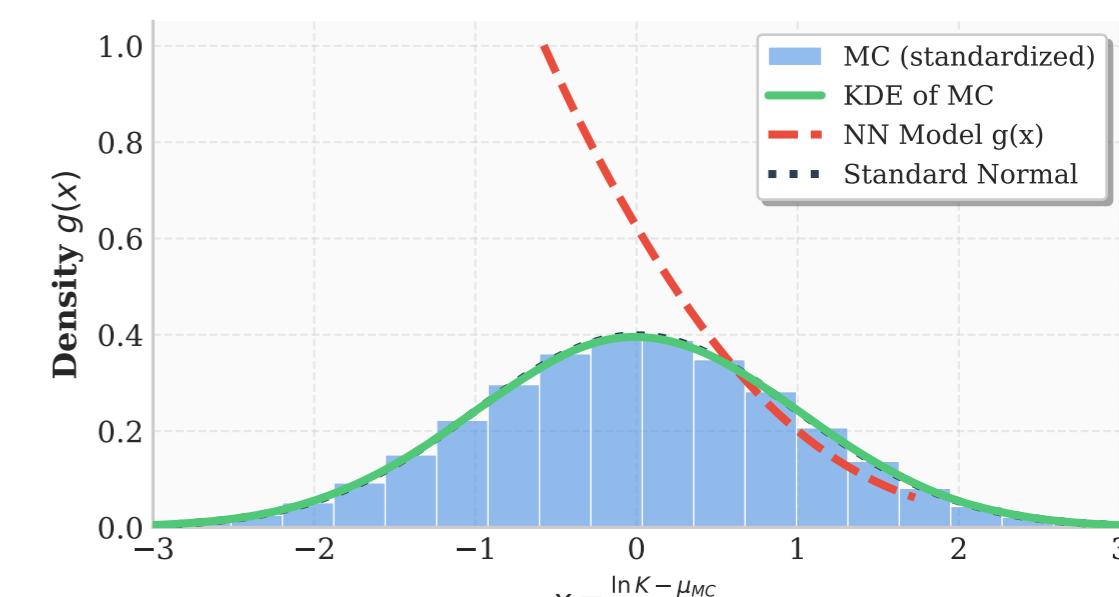
Strike Distribution ($T = 0.50$)



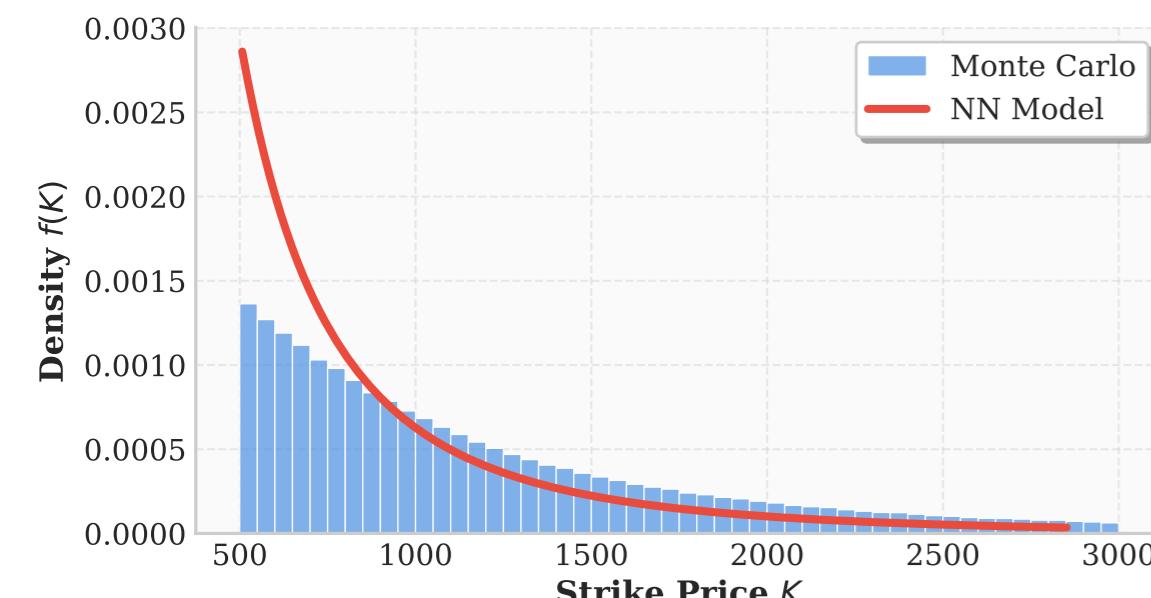
Log-Normal Distribution ($T = 0.50$)



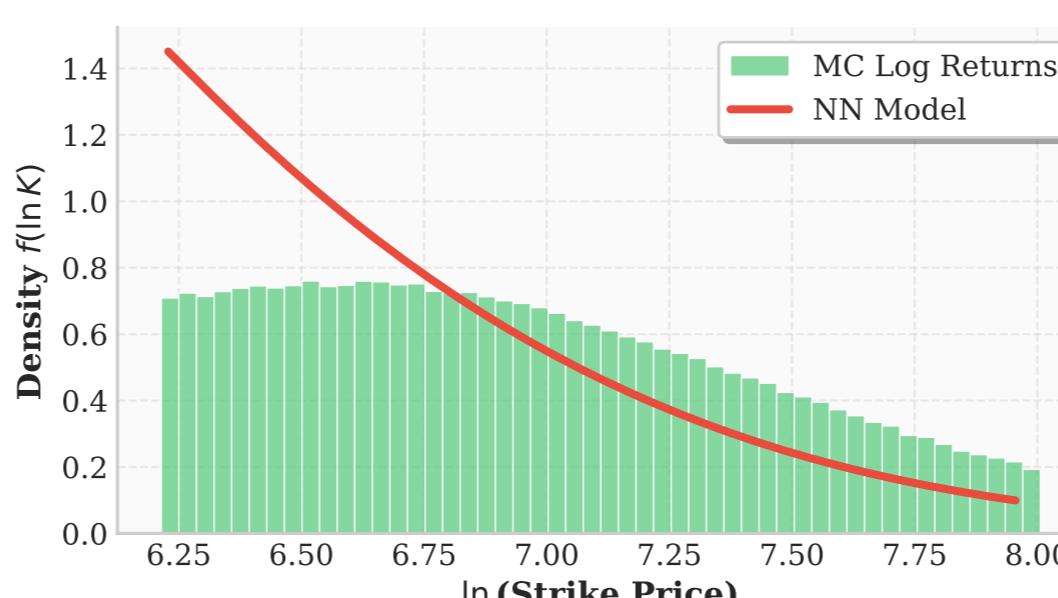
Gaussian Space ($T = 0.50$)
 MC Standardization: $\mu_{MC}=6.68, \sigma_{MC}=0.71 \rightarrow x_{MC} \sim N(0,1)$
 Model Fit: $\mu_{model}=6.74, \sigma_{model}=0.45$
 MC Stats: $\mu=0.00, \sigma=1.00, \text{Skew}=-0.01, \text{ExKurt}=-0.01$



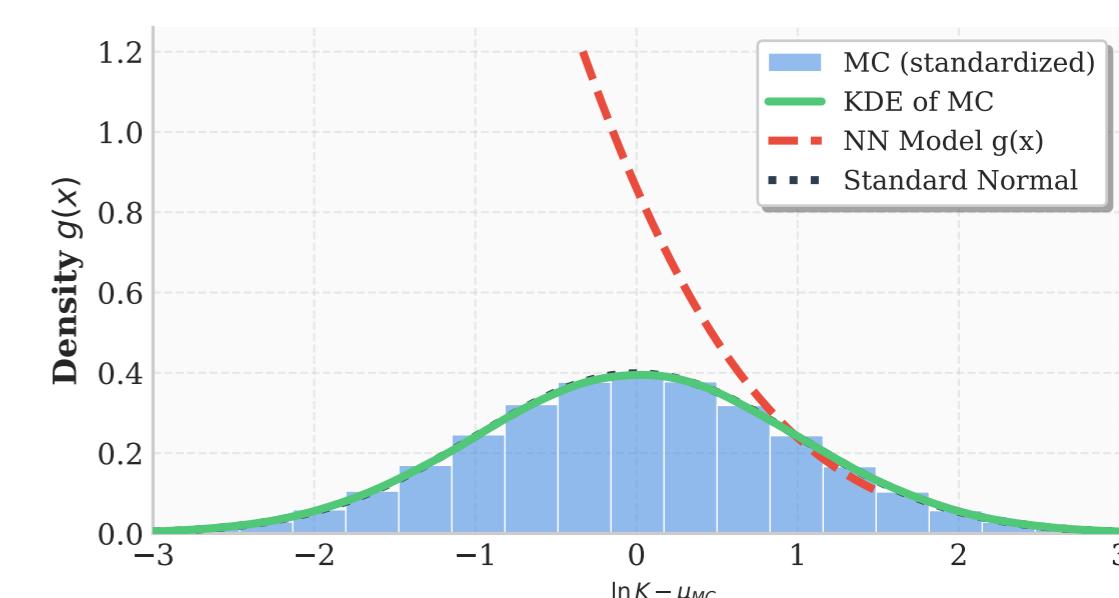
Strike Distribution ($T = 0.75$)



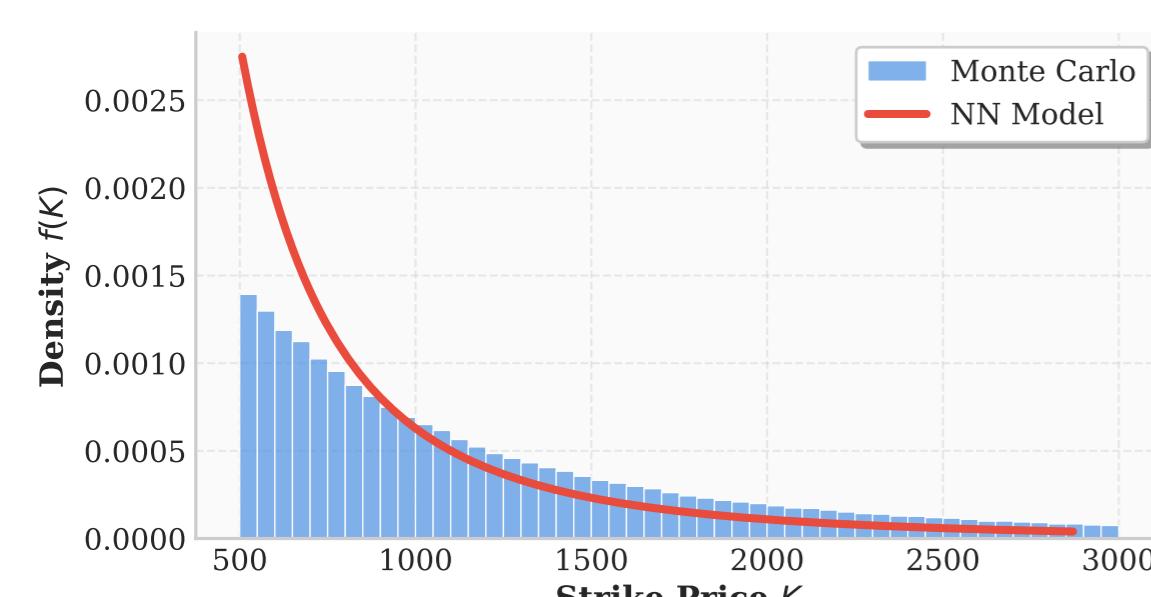
Log-Normal Distribution ($T = 0.75$)



Gaussian Space ($T = 0.75$)
 MC Standardization: $\mu_{MC}=6.56, \sigma_{MC}=0.87 \rightarrow x_{MC} \sim N(0,1)$
 Model Fit: $\mu_{model}=6.75, \sigma_{model}=0.47$
 MC Stats: $\mu=0.00, \sigma=1.00, \text{Skew}=-0.00, \text{ExKurt}=-0.01$



Strike Distribution ($T = 1.00$)



Log-Normal Distribution ($T = 1.00$)



Gaussian Space ($T = 1.00$)
 MC Standardization: $\mu_{MC}=6.45, \sigma_{MC}=1.00 \rightarrow x_{MC} \sim N(0,1)$
 Model Fit: $\mu_{model}=6.77, \sigma_{model}=0.48$
 MC Stats: $\mu=-0.00, \sigma=1.00, \text{Skew}=-0.00, \text{ExKurt}=0.00$

