

Machine Learning in Particle Physics

☆ Exponential Decay

$$\frac{dg}{dx} = g'(x) = -\gamma g(x) \quad ; \quad \underbrace{g(0) = g_0}_{\text{initial condition}}$$

- Analytical solution:

$$g(x) = g_0 e^{-\gamma x}$$

- Let's solve this ODE using an MLNN (Multi-Layer Neural Network):