

Structural Equations :

(Hidden Confounder) $U \sim \mathcal{N}(\mu_e, 0.5^2)$

$\mu_e \in \{-2, 2\}$ for ID

$\mu_e \in \{0, 4\}$ for OOD

(Input) $X = 0.75 U + \mathcal{N}(0, 1.5^2)$

(Outcome) $Y = X^2 - 3 U + \mathcal{N}(0, 0.5^2)$

(Informative) $X_i = 0.6 U + \mathcal{N}(0, 0.3^2)$

