$x \xrightarrow{x} A_u(\theta_u) \xrightarrow{\text{Afficient}} \mathcal{L} = \mathcal{L}_N + \mathcal{L}_B + \mathcal{L}_I + \mathcal{L}_M$ $A_{\gamma}(\theta_{\gamma})$ automatic differentiation $A_{\gamma}(\theta_{\gamma})$