$\mathcal{D}$

- $\tilde{L}$
- A

$\mathcal{E}$ $\mathcal{L}$

$$\mathcal{C} = (E, X, \mathcal{I}, \mathcal{A})$$

$\mathcal{D}(\tilde{L}, A) \to L$

- E
- X
- $\mathcal{I} : X \to \mathcal{L}$
- $\mathcal{A} : \mathcal{L} \to \tilde{\mathcal{L}}$

δ

$\Pr[\mathcal{D}(\tilde{L}) = L] \leq \delta$

ϵ ϵ

$$L \sim P(L|E)$$

$$\hat{L} = \mathcal{I}(X(E))$$

ϵ $\mathcal{A}$ ϵ D, D'

$$\Pr[\mathcal{A}(D) = O] \leq e^{\epsilon} \Pr[\mathcal{A}(D') = O]$$

$$\mathcal{A}(L) = g(L) + \mathcal{M}_{\epsilon}(L) + \tau(L)$$

- g
- $\mathcal{M}_{\epsilon}$
- τ

$\mathcal{M}_{\epsilon}$ ϵ $\mathcal{A}$ ϵ

τ g ϵ ϵ

$\mathcal{A}_1, \ldots, \mathcal{A}_n$ $\epsilon_1, \ldots, \epsilon_n$

$$\epsilon_{total} = \sum_{i=1}^{n} \epsilon_i$$

$I(L; \hat{L})$

$I(L; \tilde{L}) \leq I(L; \hat{L})$

$\tilde{L} = \mathcal{A}(\hat{L})$

$$L^* = \arg\max_{L \in \mathcal{L}} P(L|X(E))$$

$$\mathcal{A}(L^*) \sim \epsilon$$