$$\mathcal{L}(\boldsymbol{\theta}) = \mathcal{L}^{\mathrm{NLL}}(\boldsymbol{\theta}) + \lambda \mathcal{L}^{\mathrm{R}}(\boldsymbol{\theta}) \qquad \mathcal{L}_{all}(\boldsymbol{\theta}) = \sum_{i=1}^{2} \mathcal{L}_i(\boldsymbol{\theta}) + \mathcal{L}_f(\boldsymbol{\theta})$$

self-information

landmark
target
router

$\mathcal{L}_1(\boldsymbol{\theta})$

$NIG(\gamma_1, \upsilon_1, \alpha_1, \beta_1)$

$\oplus NIG(\gamma, \upsilon, \alpha, \beta)$

$NIG(\gamma_2, \upsilon_2, \alpha_2, \beta_2)$

$\mathcal{L}_2(\boldsymbol{\theta})$

$\mathcal{L}_f(\boldsymbol{\theta})$

$(\widehat{lon_T}, \widehat{lat_T})$

prediction

Uncertainty

$$\mathbb{E}[\sigma^2] = \frac{\beta}{\alpha - 1}$$

aleatoric

$$Var[u] = \frac{\beta}{\upsilon(\alpha - 1)}$$
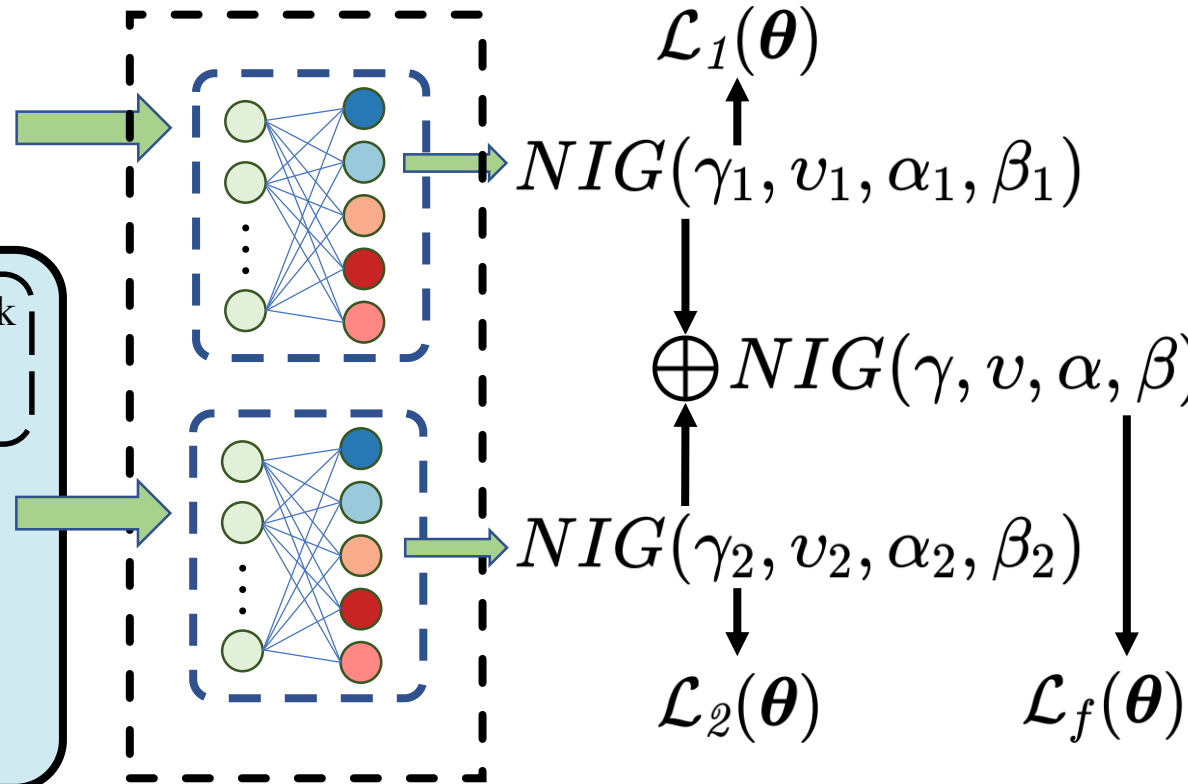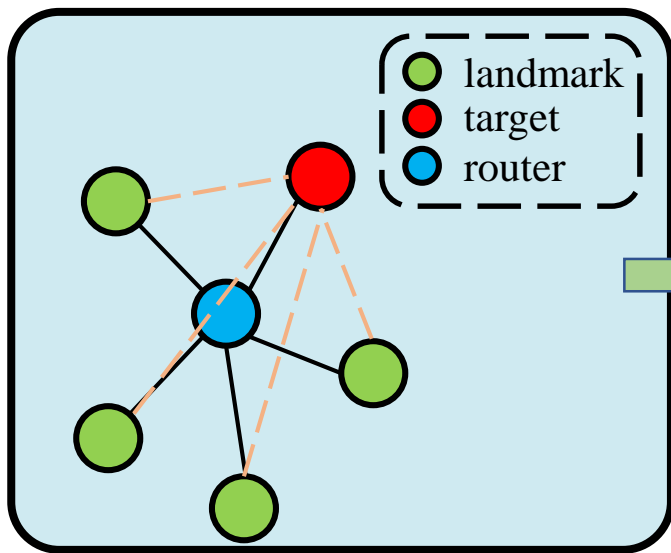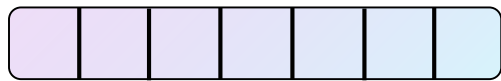
epistemic

Deep Evidential Network