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**Algorithm 1:** Framework of Meta-GNN.

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**Input:** Distribution over meta-training tasks:  $p(\mathcal{T})$ ; Meta-testing tasks:  $\mathcal{T}_{mt}$ ; Task-learning rate:  $\alpha_1$ ; Meta-learning rate:  $\alpha_2$ .

**Output:** Labels of nodes in query set of  $\mathcal{T}_{mt}$ .

Initialize  $\theta$  randomly;

**while** not converged **do**

    Sample batch of meta-training tasks  $\mathcal{T}_i \sim p(\mathcal{T})$ ;

**foreach** *task* in  $\mathcal{T}_i$  **do**

        Evaluate  $\mathcal{L}_{\mathcal{T}_i}(f_\theta)$  using  $\mathcal{S}_i$ ;

        Compute adapted parameters  $\theta'_i$ ;

        Evaluate  $\mathcal{L}_{\mathcal{T}_i}(f_{\theta'_i})$  using  $\mathcal{Q}_i$ ;

    Update  $\theta$  by;

Compute adapted parameters  $\theta'_{mt}$  using support set of  $\mathcal{T}_{mt}$ ;

Predict labels of nodes in query set of  $\mathcal{T}_{mt}$  using model  $f_{\theta'_{mt}}$ .

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