stage one: *efficient evaluation on subgraph*

$$\mathcal{X} \xrightarrow{\text{shrink}} \mathcal{X}_{\text{S}}$$

$$\text{decouple} \downarrow$$

$$\mathcal{X}_{\text{S}|\text{D}}$$

search algorithm

update

select

$$\hat{\mathbf{x}} \xrightarrow{\quad} \mathcal{M}(F(P^*, \hat{\mathbf{x}}), G_{\text{val}})$$

evaluate on subgraph G

stage two: *fine-tune the top configurations*

transfer

top10 $\mathcal{X}_{\text{S}|\text{D}}^*$

$$\mathcal{X}_{\text{S}|\text{D}}^* \rightarrow \widetilde{\mathcal{X}}^*$$

↑ batch size
↑ dimension size

search algorithm

update

select

$$\widetilde{\mathbf{x}}^* \xrightarrow{\quad} \mathcal{M}(F(P^*, \widetilde{\mathbf{x}}^*), D_{\text{val}}) \quad \mathbf{x}^*$$

evaluate on full graph D