

Training Stage

Solving Stage

Learning Model

Learning Functionality

Edge Prediction

Edge Regret Prediction

Solution Generation

Sequential Node Prediction

Training Objective

Supervised Solution Proximity

Unsupervised Solving Objective

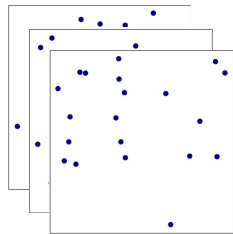
Reinforcement Solving Objective

Supervised Edge Regret Proximity

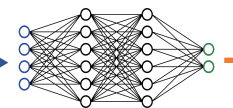
Solution Distribution Proximity

Meta Learning Objective

Instance For Solving



Neural Model



Learning-Based Search

Active Search

Gradient Search

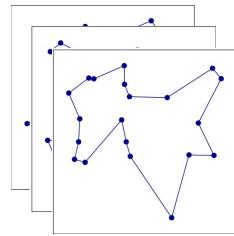
Intermediate Prediction

Edge Heatmap

Edge Regret Map

Per-step Node Heatmap

Final Solution



Naïve Construction

Greedy Decoding

Constructive Search

Beam Search

Sampling Decoding

Random Init.

Improvement-Based Search

Two-Opt

Relocate

Two-Opt Relocate Alternation

Monte Carlo Tree Search

Learning-Based

Heuristic-Based