Stage 1: Pivot Initialization
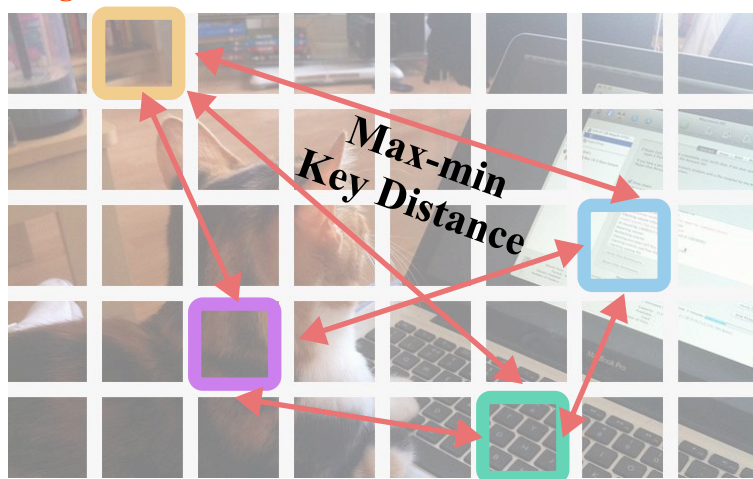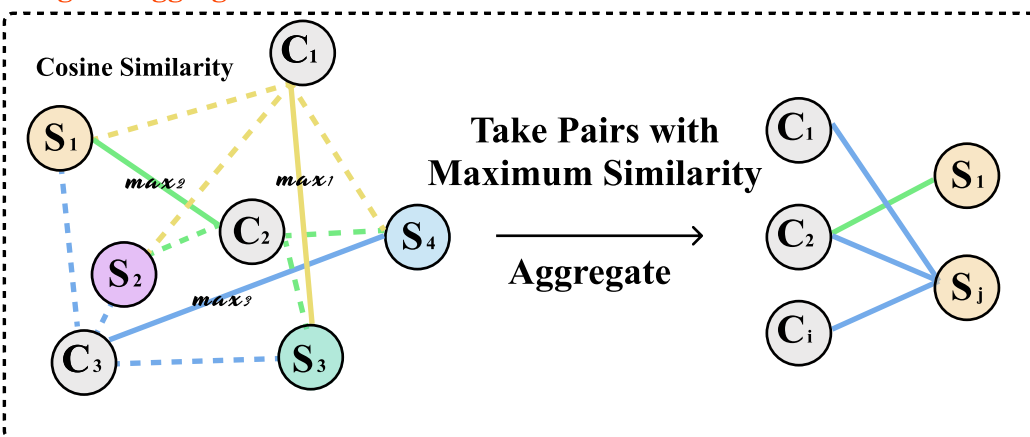
Max-min Key Distance

Pivot Tokens

Stage 2: Greedy Selection with Buffering for Spatial Sparsity (BSS) Criterion

Selected Tokens

Update into Selected

$|S| < R$
updated in current loop

No → End

Yes

Next Loop

$\max_{i \in C, j \in S} \widetilde{M}_{ij} < \tau^{(t)}$

$|S| < R$

Yes

Recompute the BSS Distance

Candidate Tokens
Sorted by BSS Criterion (Ascending)

batch 1   batch 2   ......   batch n   ......

Take the Next Batch

Stage 3: Aggregation of Discarded Tokens

Cosine Similarity

max_2 max_1 max_3

Take Pairs with Maximum Similarity

Aggregate