

# HNSW Search: Finding the Nearest City to Berlin

Query: Berlin

Layer 2 (2 entry points)

①



Par

Tok

Layer 1 (4 cities)

②

Par

Lon

Syd

Tok

Layer 0 (All 8 cities)

③

FOUND!

Lon

Ams

Rom



Par

Lon

Ams

Rom

## Search Path

- 1 Check entry points  
Paris closer than Tokyo
- 2 Descend, check neighbors  
London closer than Paris
- 3 Bottom layer search  
Amsterdam is nearest!

Total: 9 comparisons (not 8!)