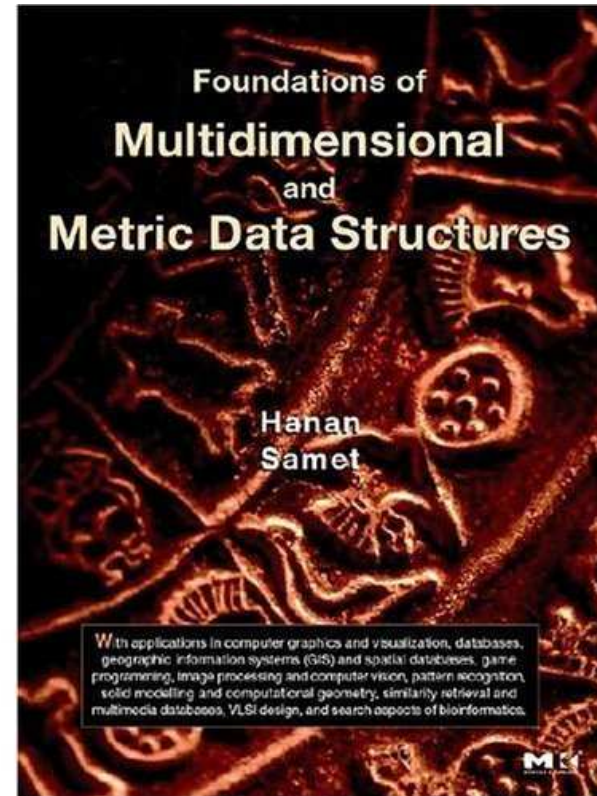


Research Interests for Hanan Samet

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RESEARCH INTERESTS FOR HANAN SAMET





1. Spatial Knowledge Discovery

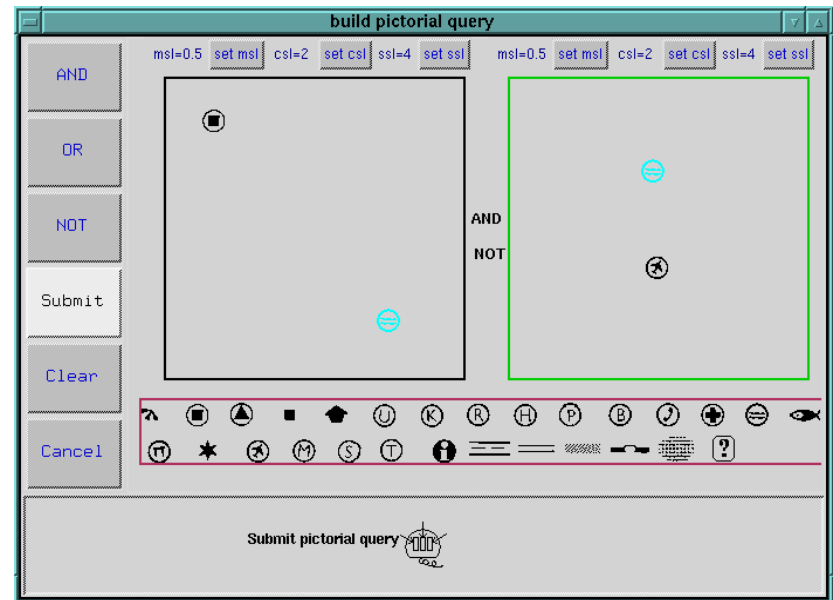
- MARCO: pictorial query specification and processing
 - How to specify spatially similar configurations
 - How to index similar shape configurations
 - Application to medical image databases
- SAND Internet Browser: spatial spreadsheets
 - Sorting spatial data for ease of retrieval
 - How to discover spatially-correlated knowledge
- STEWARD: Spatio-textual searching
 - How to identify references to geographical entities in a document
 - What geographical entity is this document about


2. Applications of Nearest Neighbor Searching

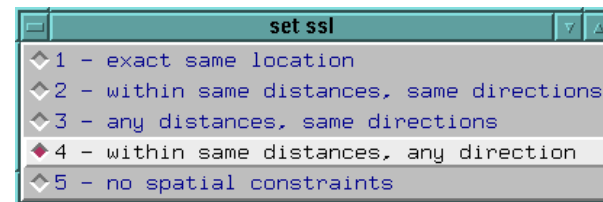
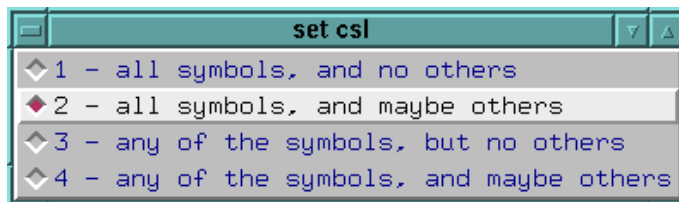
3. Similarity Searching without Distance Metrics (i.e., no Triangle Inequality)

MARCO - Pictorial Query Specification

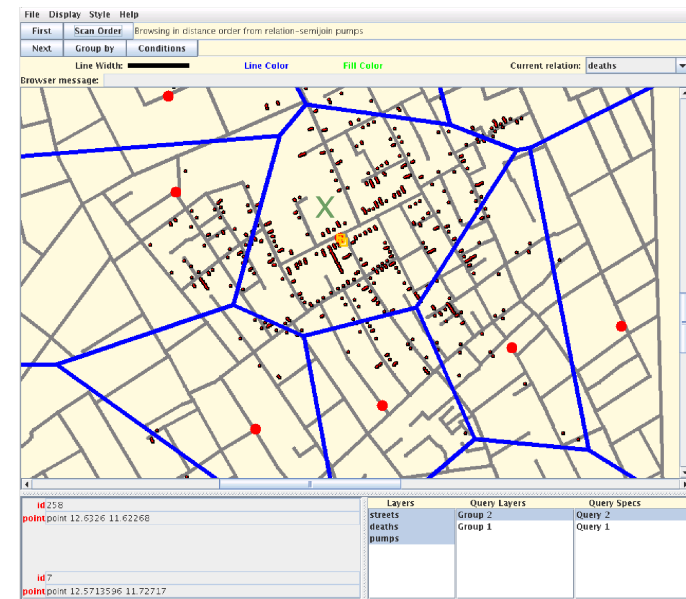
- Retrieve all database images that have a hotel  within 6 miles of beach  and do not have an airport  within 1 mile of the beach  (with certainty of 0.5 that the database image symbols are in fact a hotel, beach, and airport)



- Use color coding to denote that two query-image beach  symbols are bound to the same instance in the database image
- Contextual similarity menu: Spatial similarity menu:



SAND Internet Browser



- Application: epidemiological cartography
- Dr. John Snow's study of the 1854 Cholera epidemic in Soho, London
- Showed it to be result of contamination of water pump on Broad St
- SAND Internet Browser enabled finding the closest pair of locations of a death and a water pump
- Observe that when these pairs are retrieved in order of increasing distance between them, then a particular pump is the cause of death if that pump is always the closest to the locations where death took place

STEWARD - A Spatio-Textual Search Engine

The screenshot displays the STEWARD search engine interface. At the top, there is a menu bar with 'File', 'Edit', 'View', 'History', 'Bookmarks', 'Tools', and 'Help'. Below the menu, the search interface includes a logo, a 'Spatio-textual' tab, and an 'Advanced' search mode. The search input field contains the keyword 'colonias', and there are buttons for 'Clear Keywords', 'Search!', 'Reset Search', and 'Clear Location'. A 'Location (optional):' field and a 'Lat/Long:' field with a 'Capture' button are also present.

The main content area is divided into two sections. On the left, a list of search results is shown, each with a lettered icon (A, B, C, D, E, H) and a score. The results are:

- A Capacity Building and Governance in El Cenizo**
Score: 0.10 | Georefs | Focus: 13
Highlighted Copy - 112k
1 of 34
- B SOUTHWEST HOUSING TRADITIONS**
Score: 0.10 | Georefs | Focus: 41
Highlighted Copy - 975k
1 of 19
- C PD&R: FieldWorks**
Score: 0.10 | Georefs | Focus: 3
Highlighted Copy - 11k
1 of 11
- D PROBLEMS AND SOLUTIONS**
Score: 0.10 | Georefs | Focus: 14
Highlighted Copy - 70k
- E**
- H**

On the right, a map of North America is displayed, showing the United States and parts of Canada and Mexico. The map is overlaid with a grid and includes a scale bar (500 mi / 500 km) and a legend for 'Map', 'Satellite', and 'Hybrid' views. Several yellow circular markers with letters (A, B, C, D, E, H) are placed on the map, corresponding to the search results listed on the left. The map data is attributed to 2007 TeleAtlas.