COMS E6111
Advanced Database Systems
Spring 2014

Computer Science Department
Columbia University

Complex Attributes/Objects Common

- Images
- Spatial data (especially important with location-aware devices)
- ...

Indexing Images

- *Color*
- *Texture*
- *Shape*
- *Position*
- *Dominant edges*

Multidimensional Data
Approximate Matches

Spatial Databases

- *Regions*
- *Proximity*

Multidimensional Data

Interesting Queries

- *Point queries*
- *Range queries*
- *Nearest-neighbors queries*
- *Partial-match queries*
- *"Where-am-I" queries*

Are B-Trees Helpful?

Can we somehow use/adapt B-Trees?

Multidimensional Data Structures

- *Partitioned hashing*
- *Grid files*
- *R-trees*
- *...*