

# Gridder – visualization and clustering

Daniel Švoňava, supervisor Peter Trebatický, PhD.

Faculty of Informatics and Information Technologies, STU in Bratislava

## Hierarchical clustering in $O(d \times N \log N)^*$

- $d$  independent processes can be parallelized
- outlier removal on-the-fly
- filter for machine learning methods (computer vision)

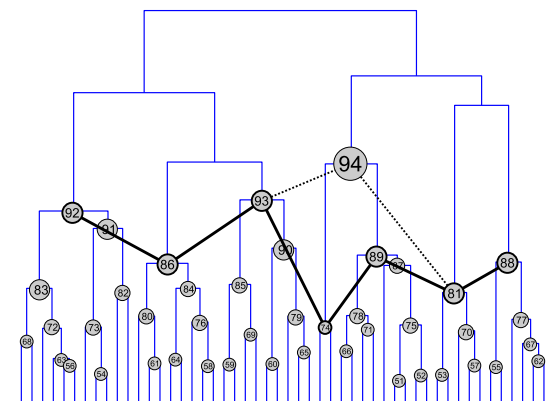
## Hierarchical structure augmented for visualization

- scalable, multiresolution
- simplified discretized navigation
- visualization of non-spatial attributes in spatial context

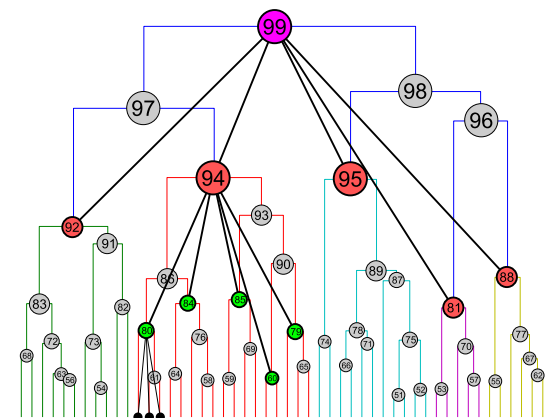
\*( $d$  – dimension of the input points)



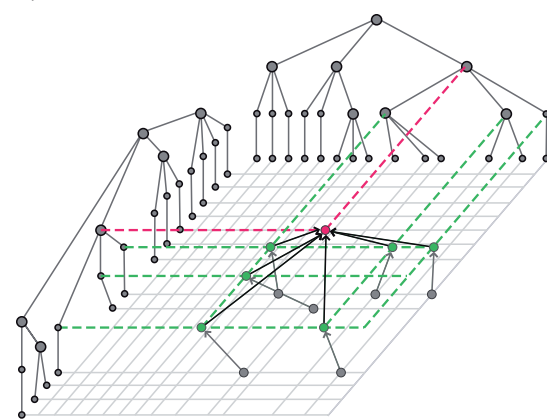
## Gridder algorithm in 3 steps:



1) Dendrogram in 1D for each dimension



2) Transformation to n-ary tree



3) Resulting dD hierarchy