

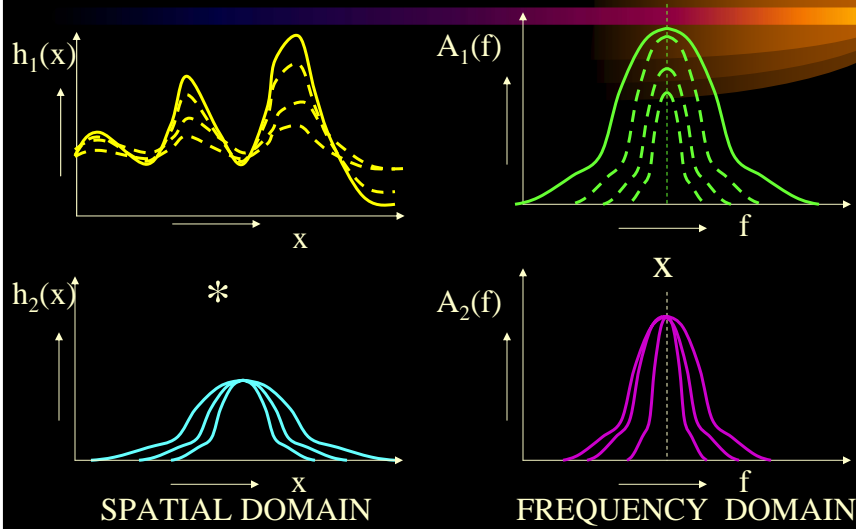
Digital Image Processing

ICS 181

Low Pass Filtering

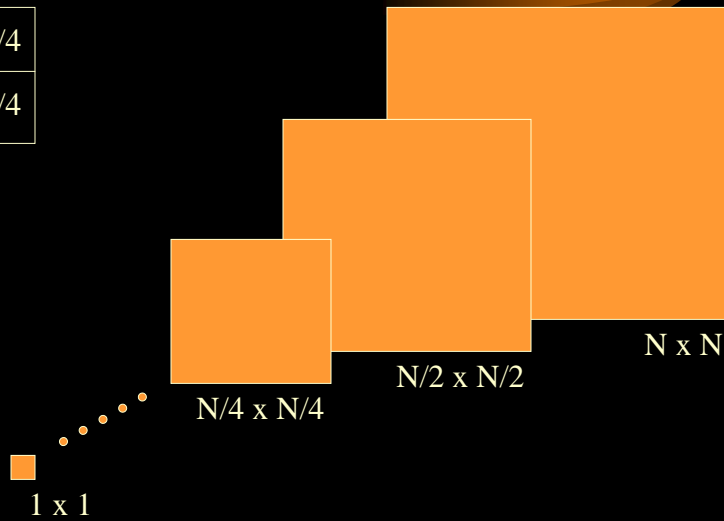


Hierarchical Image Filtering

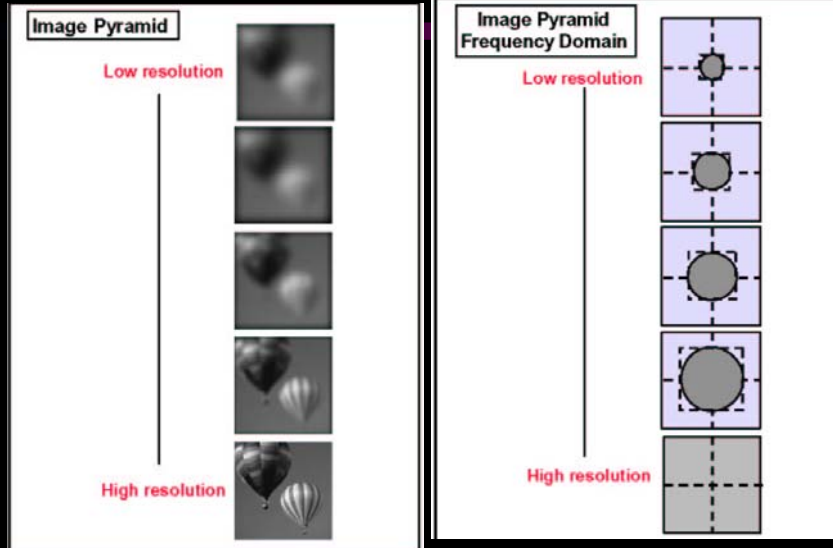


Hierarchical Filtering

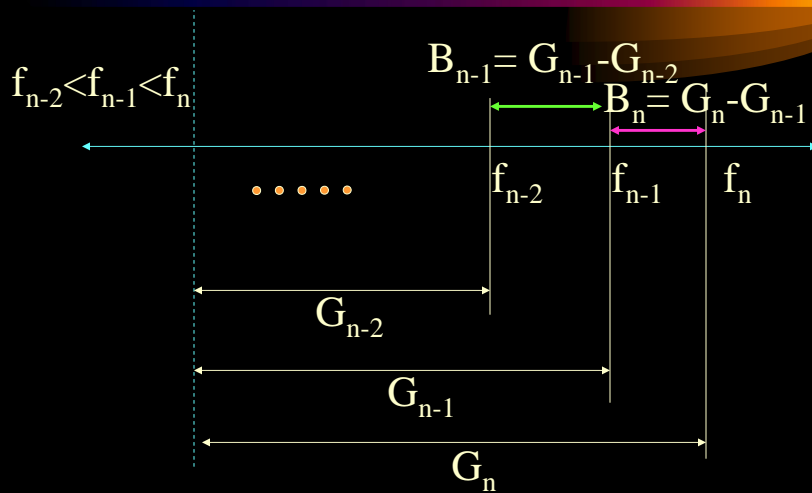
1/4	1/4
1/4	1/4



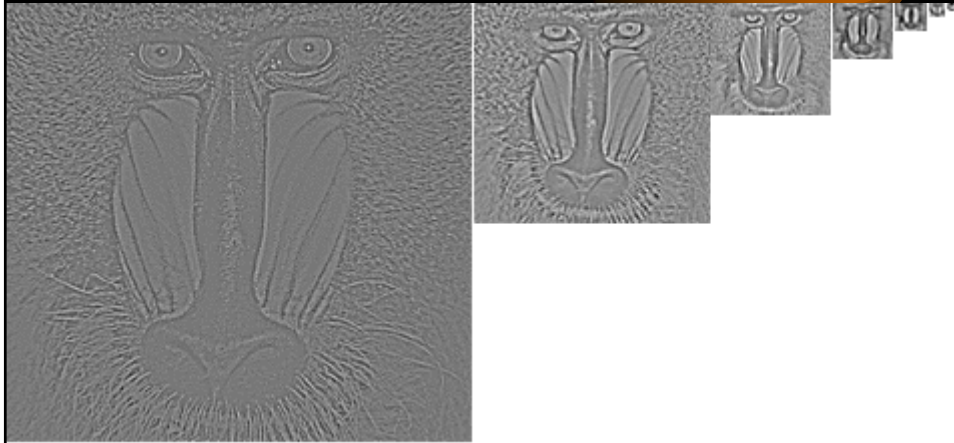
Gaussian Pyramid



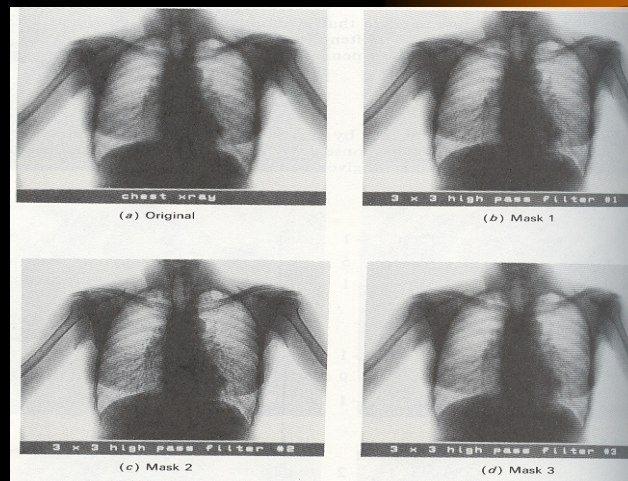
Band-limited Images (Laplacian Pyramid)



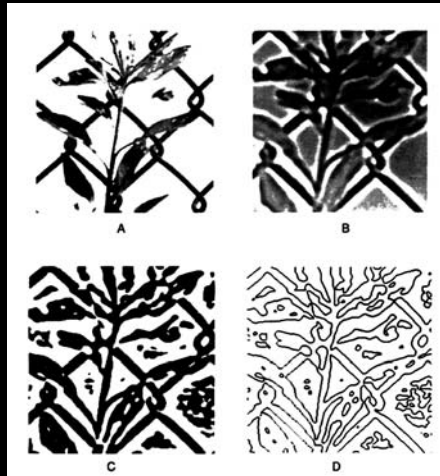
Band-limited Images (Laplacian Pyramid)



Edge Crispening

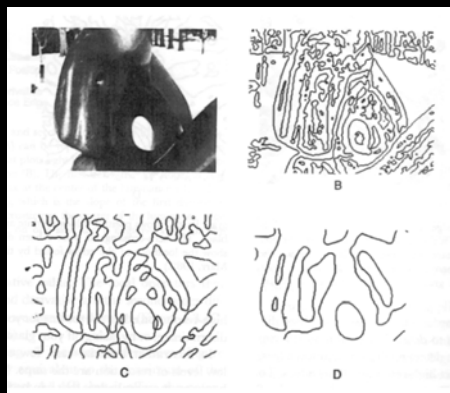


Second Order Edge Detection



- A. The image
- B. Image after convolution
- C. Segmented convolved image
- D. Edge detected image

Scaling Problem



- Edges in coarser level do not disappear in finer levels
- New edges are added
- Coarser level edges are most important
- Advances like a hierarchy