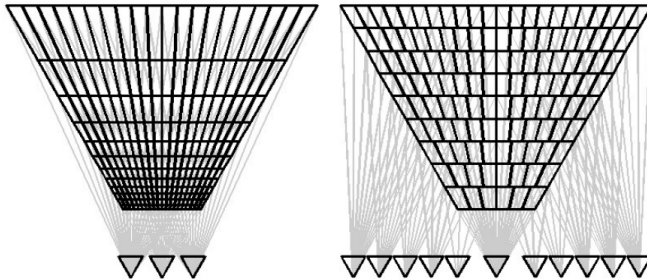


# Variable Baseline/Resolution Stereo

D. Gallup, J. Frahm, P. Mordohai, M. Pollefeys (CVPR 2008)



- ▶ Presents a novel multi-baseline, multi-resolution stereo method, which varies the baseline and resolution proportionally to depth to obtain a reconstruction in which the depth error is constant
- ▶ In contrast to traditional stereo, in which the error grows quadratically with depth, which means that the accuracy in the near range far exceeds that of the far range
- ▶ By selecting an appropriate baseline and resolution (image pyramid), the algorithm computes a depthmap which has these properties:
  - ▶ the depth accuracy is constant over the reconstructed volume, by increasing the baseline to increase accuracy in the far range
  - ▶ the computational effort is spread evenly over the volume by reducing the resolution in the near range
  - ▶ the angle of triangulation is held constant w.r.t. depth
- ▶ Evaluates on self-recorded dataset