Gray level histograms

Brain image
Gray level histograms

Bay image
Gray level histogram in viewfinder
Gray level histograms

- To measure a histogram:
  - For B-bit image, initialize $2^B$ counters with 0
  - Loop over all pixels $x,y$
  - When encountering gray level $f[x,y]=i$, increment counter $i$

- Normalized histogram can be thought of as an estimate of the probability distribution of the continuous signal amplitude

- Use fewer, larger bins to trade off amplitude resolution against sample size.