

Histogram Equalization Steps

1. Given image $I(x,y)$, create a histogram H :
 - For all x,y : $H(I(x,y)) = H(I(x,y)) + 1$
2. Create cumulative histogram $S(k)$:
 - $S(0) = H(0)$; $S(k+1) = S(k) + H(k+1)$;
 - Let m be first grey level for which $S(m) \neq 0$;
3. Create Look Up Table (LUT) $T(k)$:
 - $T(k) = \text{round}\{255 \times [S(k)-S(m)] / [S(255)-S(m)]\}$
4. Apply LUT T to image I , get equalized image J
 - $J(x,y) = T(I(x,y))$