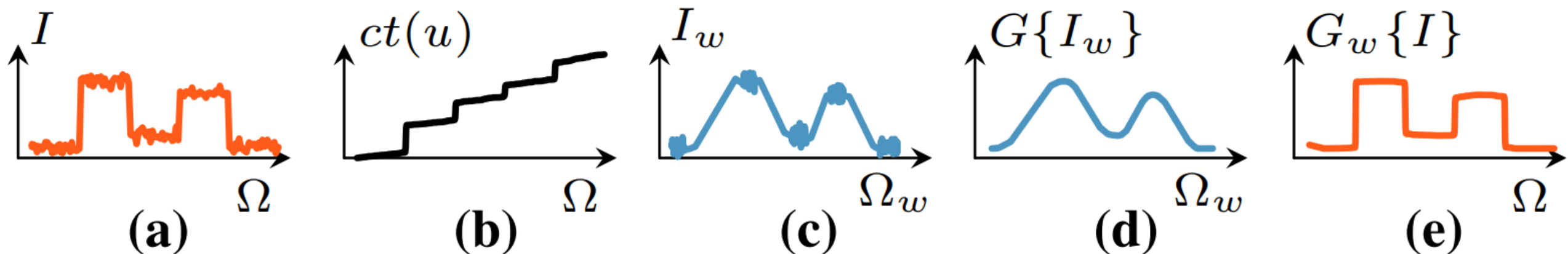


# Domain Transform for Edge-Aware Image and Video Processing

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**Figure 3:** 1D edge-preserving filtering using  $ct(u)$ . (a) Input signal  $I$ . (b)  $ct(u)$ . (c) Signal  $I$  plotted in the transformed domain ( $\Omega_w$ ). Signal  $I$  filtered in  $\Omega_w$  with a 1D Gaussian (d) and plotted in  $\Omega$  (e).

$$ct(u) = \int_0^u 1 + \frac{\sigma_s}{\sigma_r} \sum_{k=1}^c |I'_k(x)| \, dx.$$



(a) *Input*



(b) *1 itr.*



(c) *3 itr.*



(d) *Details from Input (a)*



(e) *Details from 3 itr. (c)*

**Figure 5:** *Two-pass 1D filtering ( $\sigma_H = \sigma_s = 40$  and  $\sigma_r = 0.77$ ).*





**(a)** *Photograph*



**(b)** *Edge-aware smoothing*



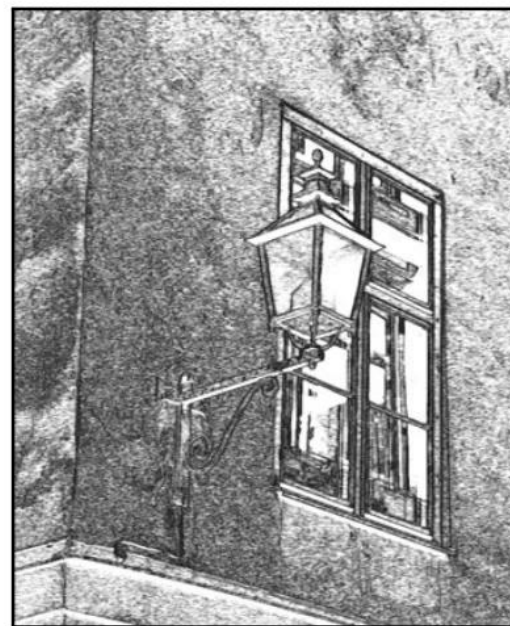
**(c)** *Detail enhancement*



**(d)** *Stylization*



**(e)** *Recoloring*



**(f)** *Pencil drawing*



**(g)** *Depth-of-field*