Event-based Computer Vision

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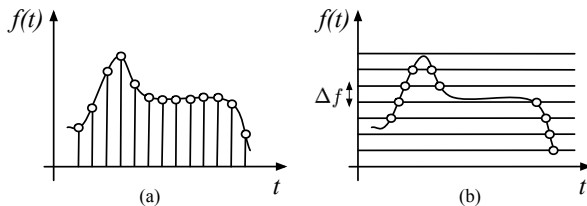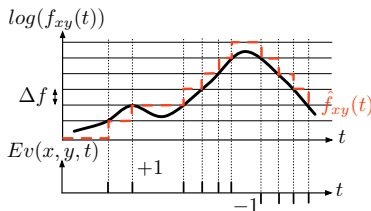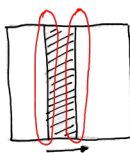# Discretizations

Figure: time-driven discretization VS data-driven discretization
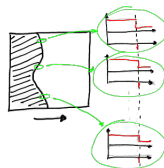
Encoding

- $T = \{t_k \mid |\mathcal{F}(f_{x,y}(t_k)) - \mathcal{F}(f_{x,y}(t_{k-1}))| = \Delta f\}$. Let $Ev(x, y, t)$ be the compact representation of $f_{x,y}$,
- $Ev(x, y, t) = \delta(t, t_k) \cdot sign(f'_{x,y}(t)),$

Activity and events

(a)   (b)

- 2(a), Change of luminosity on the edges.
- 2(b), Events evoked on the sampling.
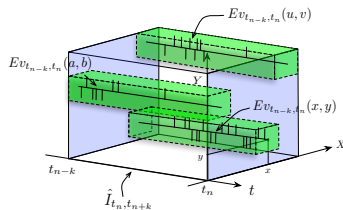
Evoked events

Figure: Spatio-temporal volume of events

Computations

(a)   (b)

- 3(a), Frame of a corridor recoded by a standard camera.
- 3(b), *Reconstructed* frame of a corridor recoded by a standard camera.