

Posterization with Error Diffusing Dithering

Floyd-Steinberg
Atkinson
Edge-directed

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BitMask posterization

Input Image

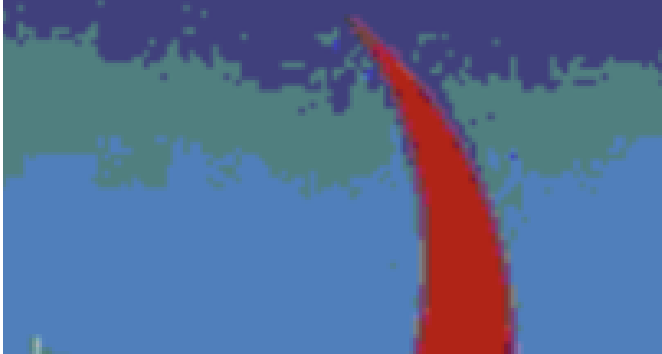


Output Image



Drawbacks

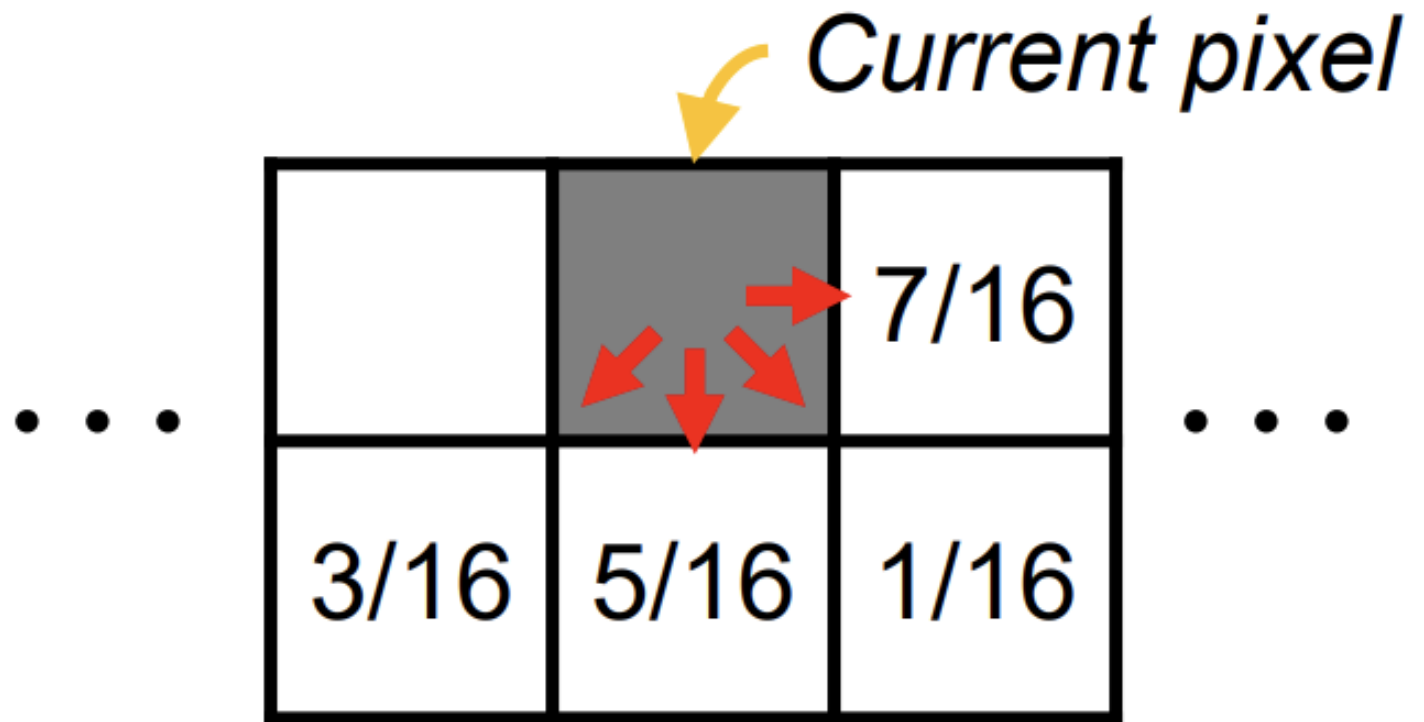
- Edge Aliasing



- Banding Artifacts



Classic:
Floyd-
Steinberg



Floyd-Steinberg

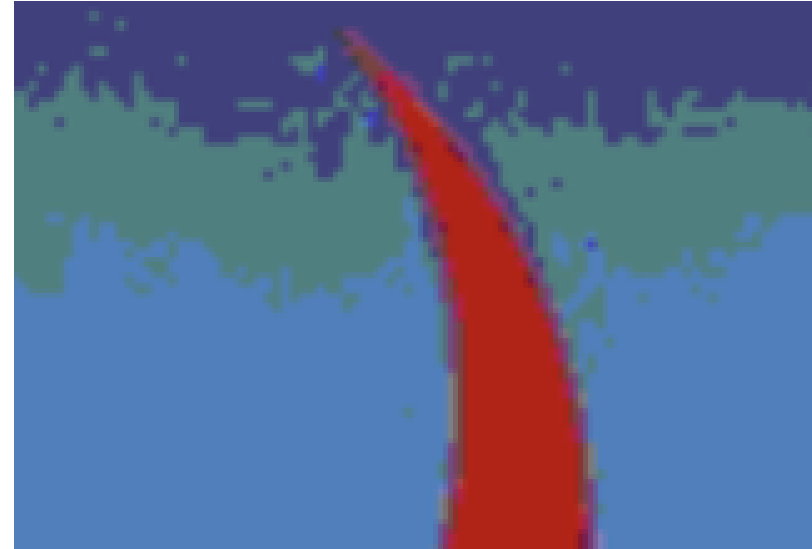
Input Image



Output Image



Compare Floyd-Steinberg and Bitmask



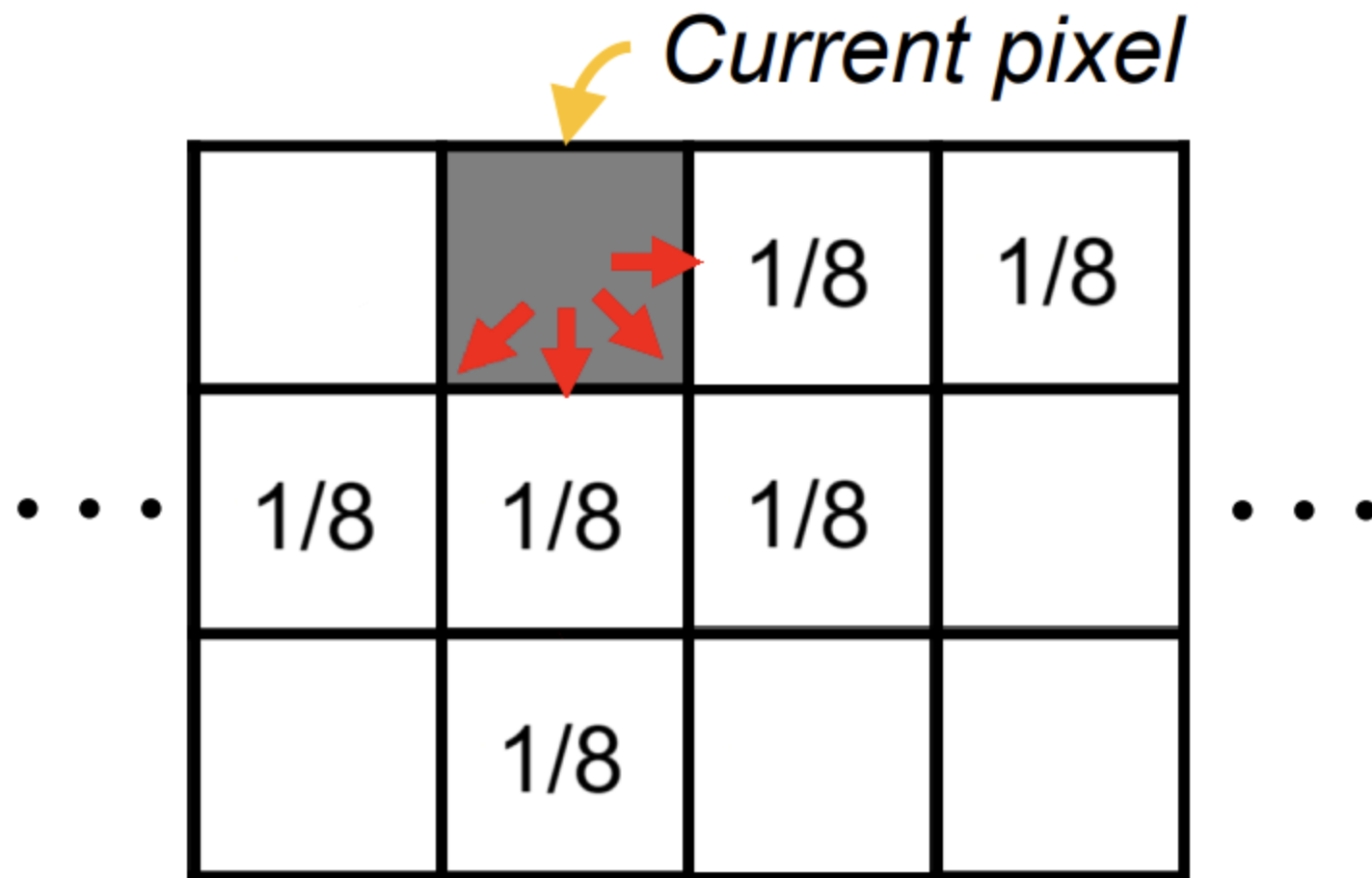
New problem

Image edges not sharp

Edge details are lost



Alternative:
Atkinson



Atkinson

Input Image



Output Image



Compare Floyd-Steinberg and Atkinson



Atkinson has Fewer noisy dots and sharper edges
Atkinson is stylish

Dynamic:
Edge-
directed

Edge detection

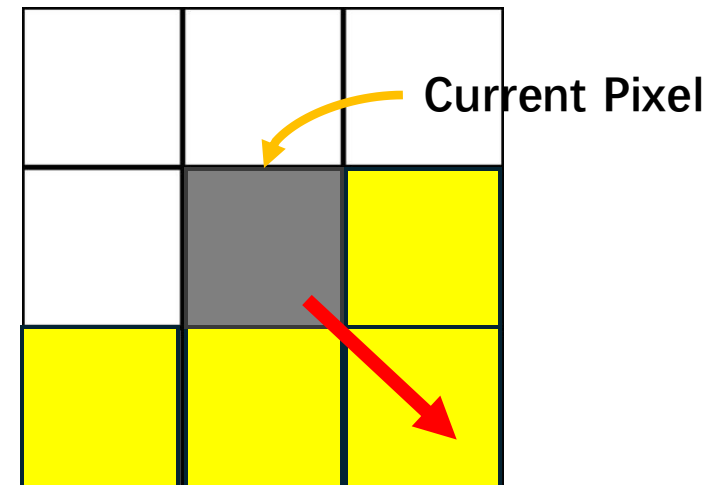
-1		1
-2		2
-1		1

Vertical
edge kernel

1	2	1
-1	-2	-1

Horizontal
edge kernel

Cross-edge
error diffusion



Edge-directed

Input Image



Output Image



Compare Floyd-Steinberg and Edge-directed



Edge-directed has sharper edges
It is not stylish as Atkinson