Regressogram

$$g(x) = \frac{\sum_{i=1}^{N} b(x, x_i) y_i}{\sum_{i=1}^{N} b(x, x_i)}$$

where

$$b(x, x_i) = \begin{cases} 1 & \text{if } x_i \text{ is in the same bin with } x \\ 0 & \text{otherwise} \end{cases}$$

Running Mean Smoother

$$g(x) = \frac{\sum_{i=1}^{N} w\left(\frac{x - x_i}{h}\right) y_i}{\sum_{i=1}^{N} w\left(\frac{x - x_i}{h}\right)}$$

where

$$w(u) = \begin{cases} 1 & \text{if } |u| \leq 1/2 \\ 0 & \text{otherwise} \end{cases}$$

Kernel Smoother

$$g(x) = \frac{\sum_{i=1}^{N} K\left(\frac{x - x_i}{h}\right) y_i}{\sum_{i=1}^{N} K\left(\frac{x - x_i}{h}\right)}$$

where

$$K(u) = \frac{1}{\sqrt{2\pi}} \exp\left(-\frac{u^2}{2}\right)$$