

Two arbitrary matrices A of size $m \times p$, B of size $m \times p$, the Haar Wavelet Pair, and the Haar Wavelet Transform. The wavelet pair to be used here is

$$\psi_H(x) = \sqrt{\frac{1}{2}} \begin{cases} 1 & x = 0 \\ -1 & x = 1 \\ 0 & otherwise \end{cases}$$

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