

PDF addition

Say we have the following PDFs:

$$A = \begin{pmatrix} 1 & 2 \\ 0.2 & 0.8 \end{pmatrix}; B = \begin{pmatrix} 2 & 3 \\ 0.4 & 0.6 \end{pmatrix}$$

And we want to find the PDF $C = A + B$.

$$C = \begin{pmatrix} 3 & 4 & 5 \\ (0.2 \cdot 0.4) & (0.2 \cdot 0.6 + 0.8 \cdot 0.4) & (0.8 \cdot 0.6) \end{pmatrix} = \begin{pmatrix} 3 & 4 & 5 \\ 0.08 & 0.44 & 0.48 \end{pmatrix}$$