

$$(AB)_{ij} = \sum_{k=1}^p a_{ik} b_{kj} = a_{i1} b_{1j} + a_{i2} b_{2j} + \cdots + a_{ip} b_{pj}$$

如下所示：

$$A = \begin{bmatrix} a_{1,1} & a_{1,2} & a_{1,3} \\ a_{2,1} & a_{2,2} & a_{2,3} \end{bmatrix}$$

$$B = \begin{bmatrix} b_{1,1} & b_{1,2} \\ b_{2,1} & b_{2,2} \\ b_{3,1} & b_{3,2} \end{bmatrix}$$

$$C = AB = \begin{bmatrix} a_{1,1} b_{1,1} + a_{1,2} b_{2,1} + a_{1,3} b_{3,1}, & a_{1,1} b_{1,2} + a_{1,2} b_{2,2} + a_{1,3} b_{3,2} \\ a_{2,1} b_{1,1} + a_{2,2} b_{2,1} + a_{2,3} b_{3,1}, & a_{2,1} b_{1,2} + a_{2,2} b_{2,2} + a_{2,3} b_{3,2} \end{bmatrix}$$