Matrix multiplication:

$$A = \begin{bmatrix} \alpha & \beta \\ \gamma & \delta \end{bmatrix} \qquad A' = \begin{bmatrix} \alpha' & \beta' \\ \gamma' & \delta' \end{bmatrix}$$

2×2

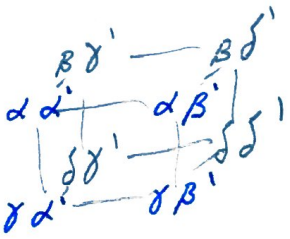
$\tilde{A}$ = view $(A, all, new) \rightsquigarrow$

$2 \times 1 \times [2] \rightsquigarrow$ will fold over this we think of A as a list of vectors so say $[2]$

extending scalars $\rightsquigarrow$ roughly means $\mathbb{R}^2 \otimes \mathbb{C}$

Then $\tilde{A} \times A^{tr}$ is:

$\rightsquigarrow$



Finally, sum over the third axis.