

The diagram illustrates the Tucker decomposition of a 3D tensor  $\gamma$ . On the left, a yellow cube represents the tensor  $\gamma$ . To its right is an approximation symbol  $\approx$ . Further right, the decomposition is shown as a sum of rank-1 components. Each component consists of a vertical yellow rectangle labeled  $\mathbf{A}_1$  (for the first term) or  $\mathbf{A}_R$  (for the last term), followed by a horizontal yellow rectangle labeled  $\mathbf{B}_1^\top$  or  $\mathbf{B}_R^\top$ . A small yellow parallelogram is attached to the top edge of each  $\mathbf{B}$  rectangle, labeled  $\mathbf{x}_1$  or  $\mathbf{x}_R$  respectively. Ellipses  $+\dots+$  indicate the summation of intermediate terms.

$$\gamma \approx \mathbf{A}_1 \mathbf{B}_1^\top \mathbf{x}_1 + \dots + \mathbf{A}_R \mathbf{B}_R^\top \mathbf{x}_R$$