

$$\begin{aligned}
W^T \mathbf{z} = & \begin{bmatrix} [w_{u-0}] \\ [w_{u-1}] \\ \vdots \\ [w_{u-1}] \end{bmatrix} \begin{bmatrix} z_0 \\ z_1 \\ \vdots \\ z_{m-1} \end{bmatrix} = \begin{bmatrix} [w_{u-0}] \\ [w_{u-1}] \\ [w_{u-1}] \end{bmatrix} z_0 + \begin{bmatrix} [w_{u-1}] \\ [w_{u-1}] \end{bmatrix} z_1 + \dots + \begin{bmatrix} [w_{u-1}] \end{bmatrix} z_{m-1}
\end{aligned}$$