$$v_j = \frac{\parallel \mathbf{s}_j \parallel^2}{1 + \parallel \mathbf{s}_j \parallel^2} \frac{\mathbf{s}_j}{\parallel \mathbf{s}_j \parallel},$$

where  $\mathbf{s}_j$  and j denote the vector output of capsule j and its total input, respectively.