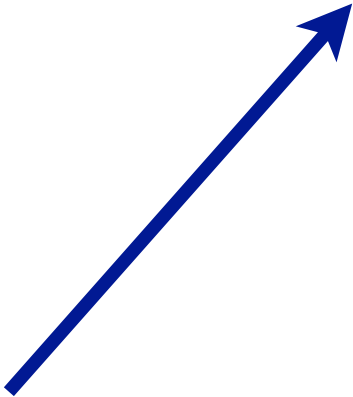
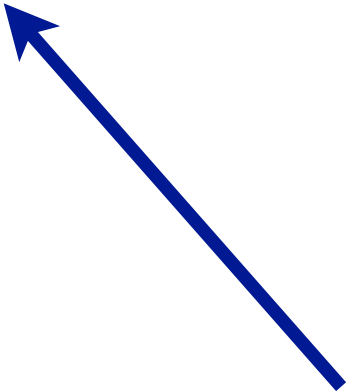


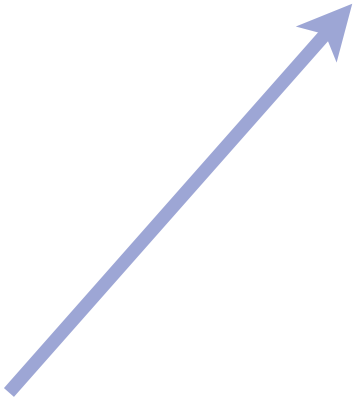
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Sparsity Constraints















2





W





































2



W









2a























































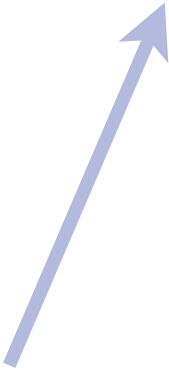


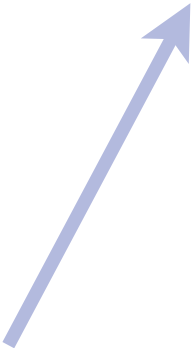


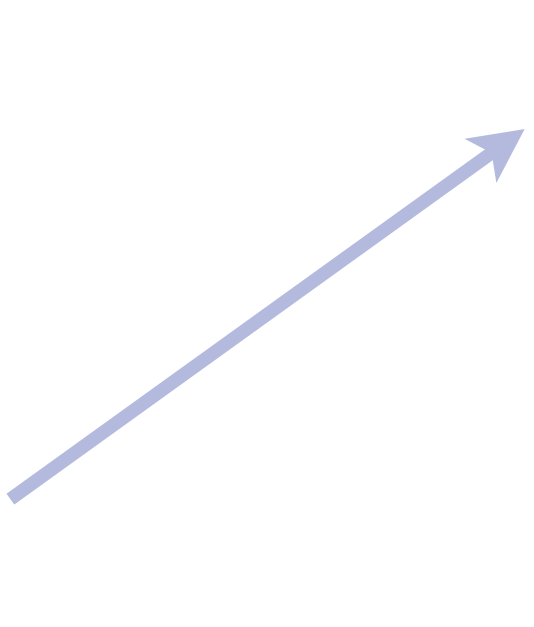
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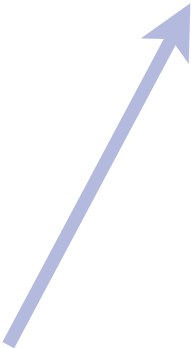


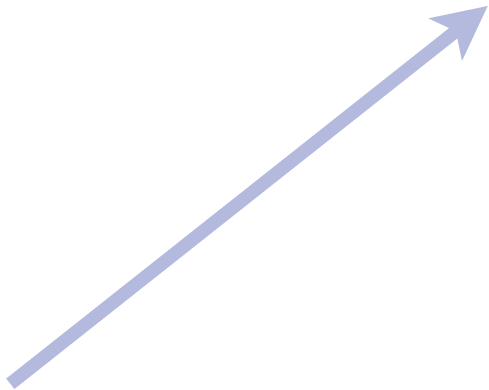




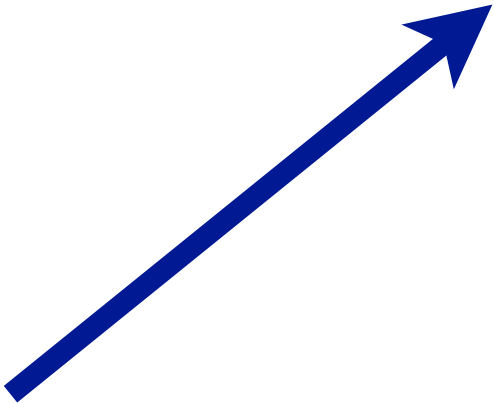


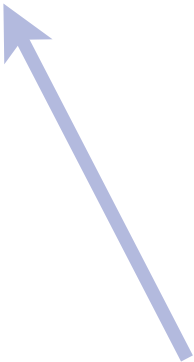




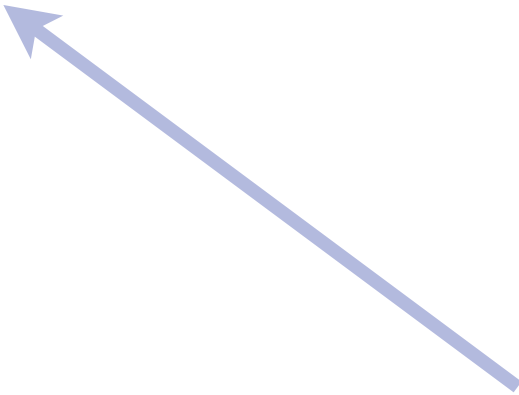


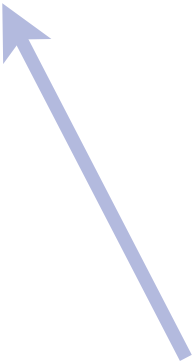


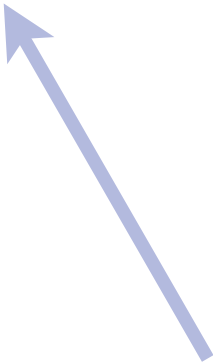


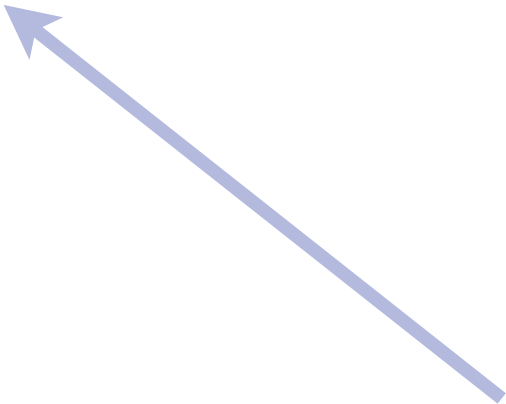


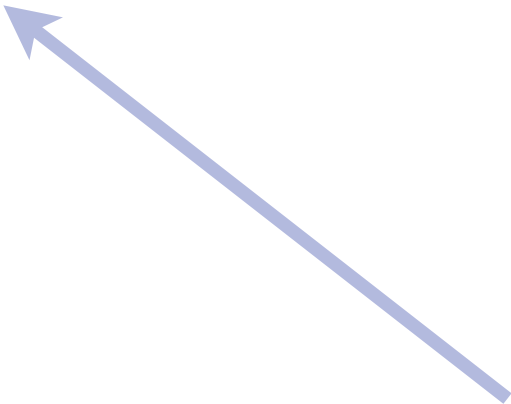


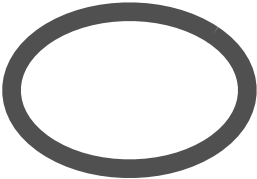


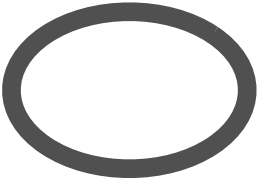


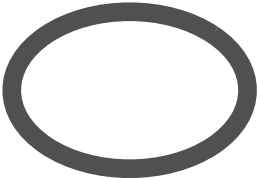


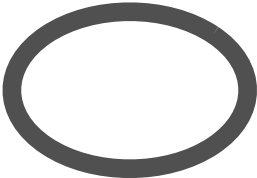


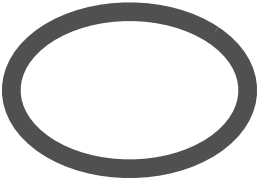


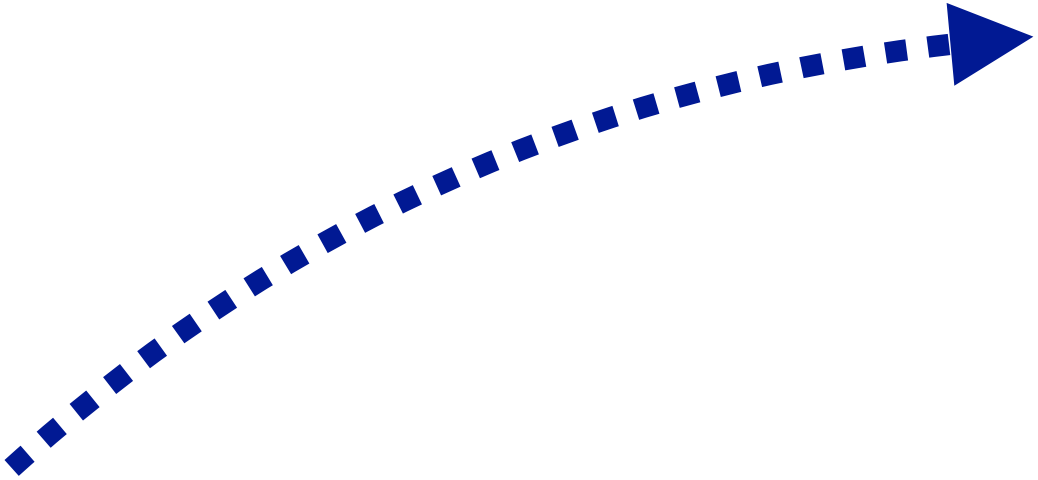


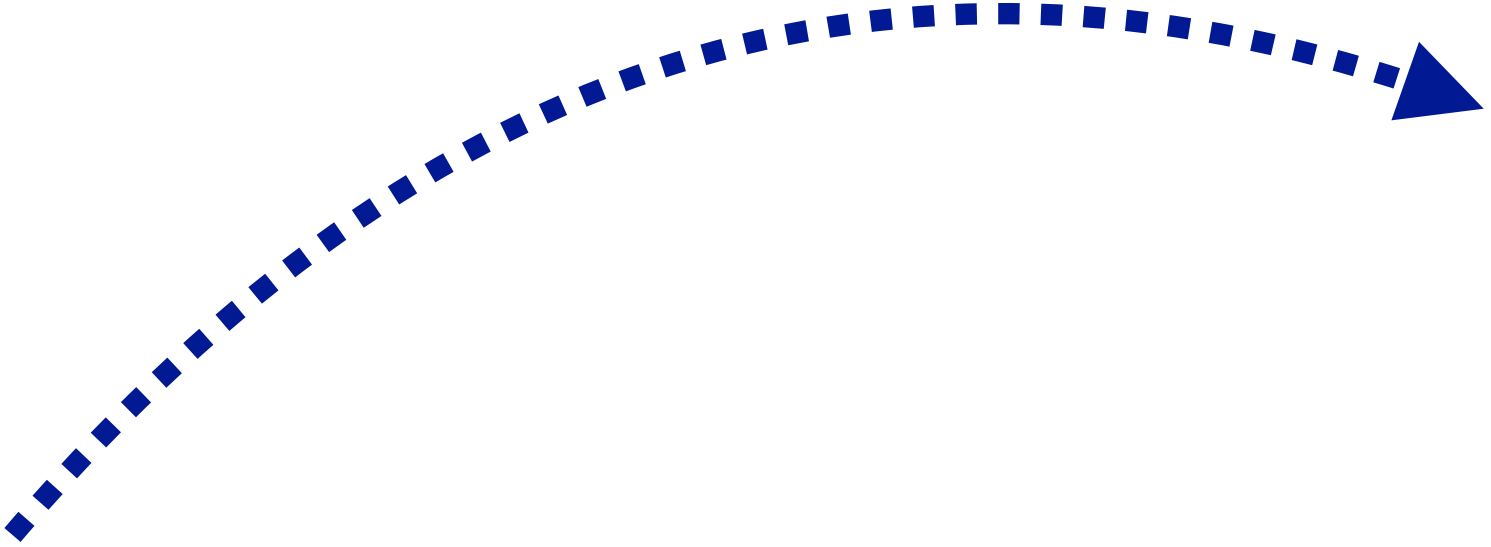






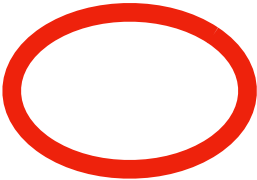


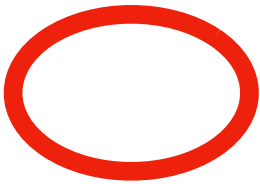


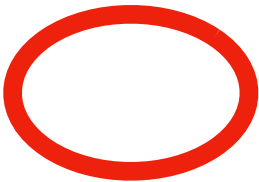


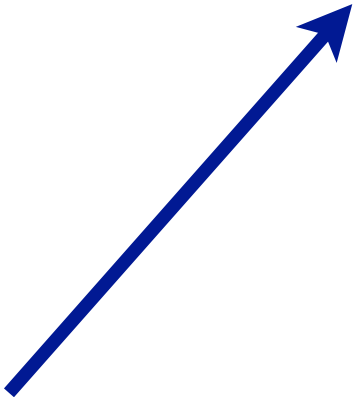
$$w_1 = 0$$

$$W_2 = 0$$



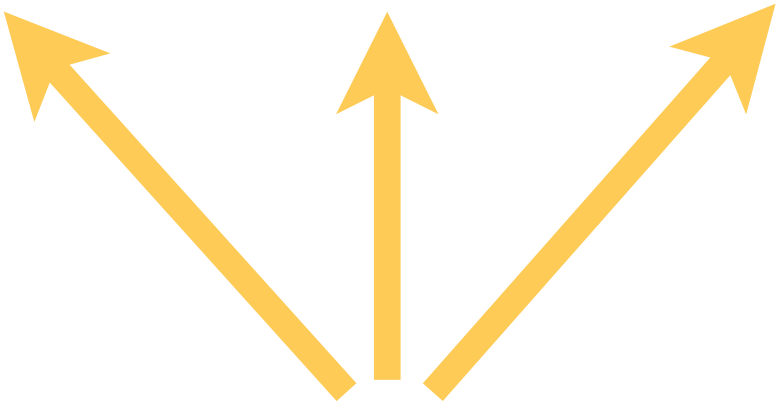


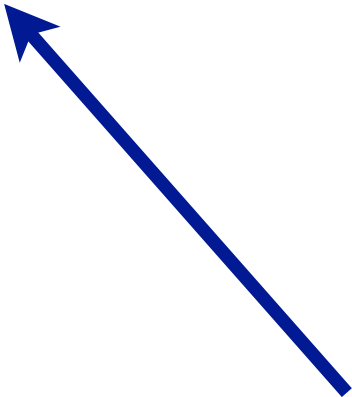


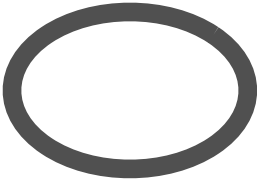


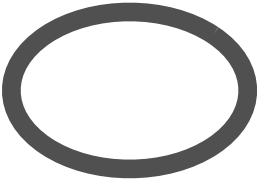


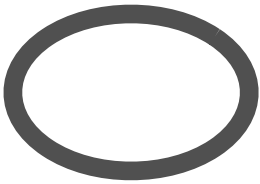






































2







V













2

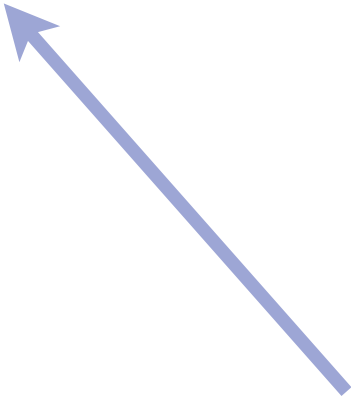


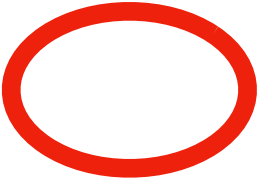


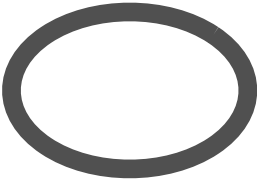




$$w[v_i \rightarrow u_k] = 0 \Rightarrow w[v_{i+1} \rightarrow u_{k+1}] = 0$$







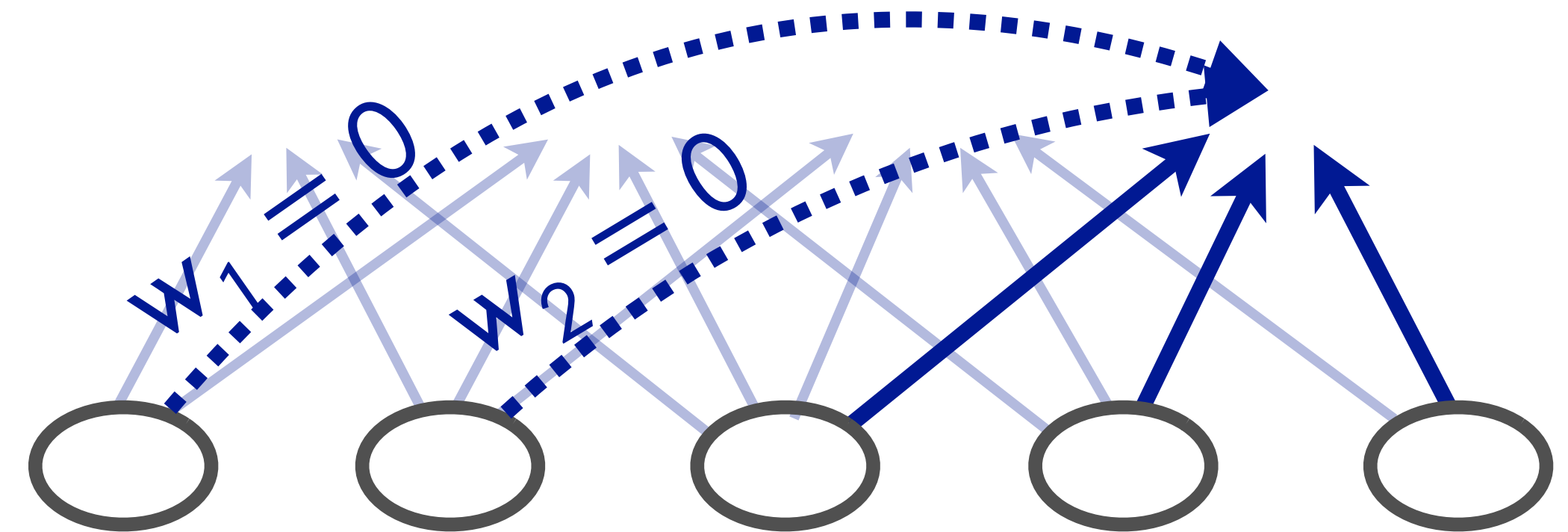


u

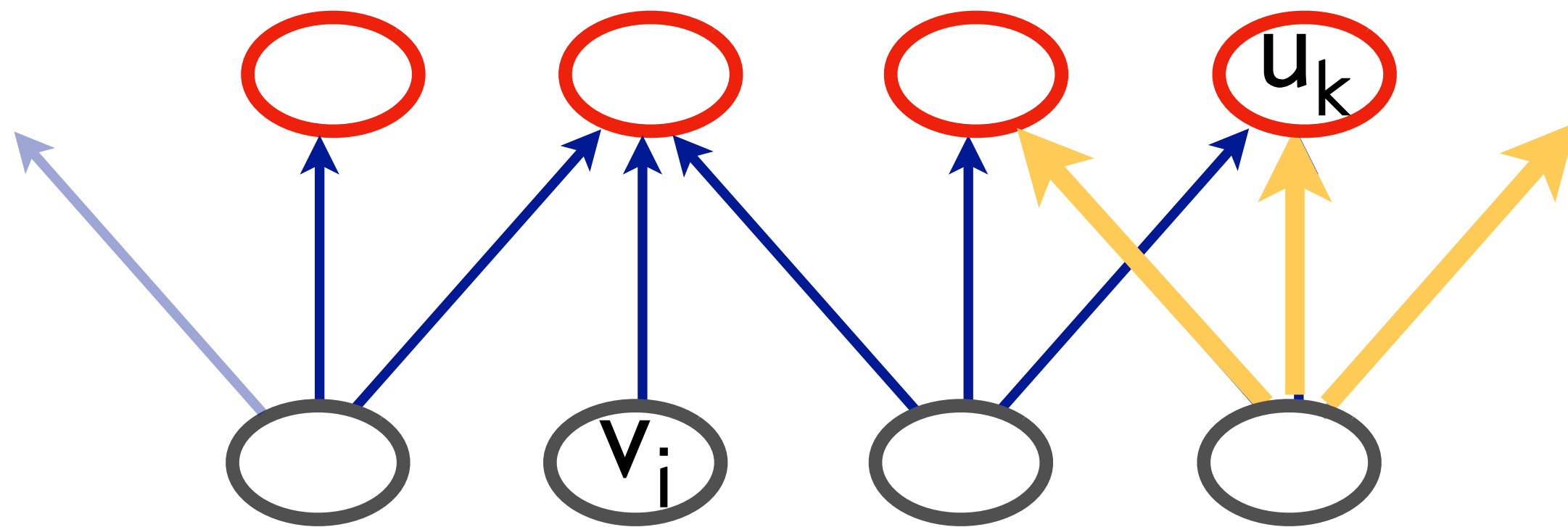
k

Constrain weights (denoted here as \mathbf{w}) of each neuron (incoming edges) to be sparse

Sparsity Constraints



Constrain weights (denoted here as \mathbf{w}) of each neuron (incoming edges) to be sparse



Add self-similarity constraints

$$\mathbf{w}[v_i \rightarrow u_k] = 0 \Rightarrow \mathbf{w}[v_{i+1} \rightarrow u_{k+1}] = 0$$

Structural Self-Similarity

$$a_{ik} = \mathbf{w}[v_i \rightarrow u_k] = 0$$

$$\Rightarrow a_{i+1\ k+1} = \mathbf{w}[v_{i+1} \rightarrow u_{k+1}] = 0$$

