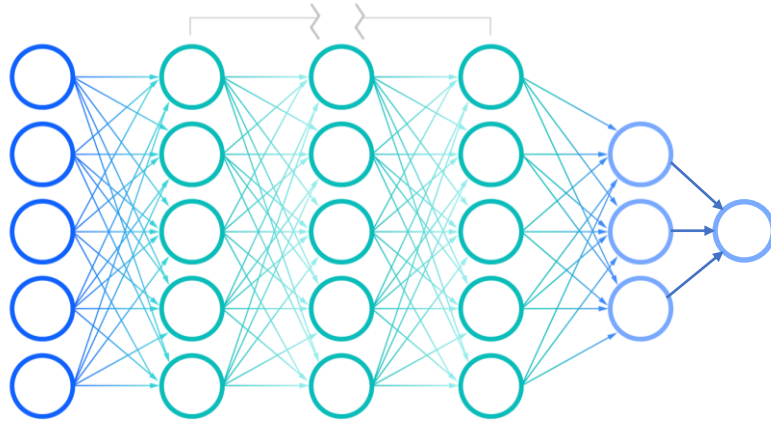


Stage1 (S1): Simulations



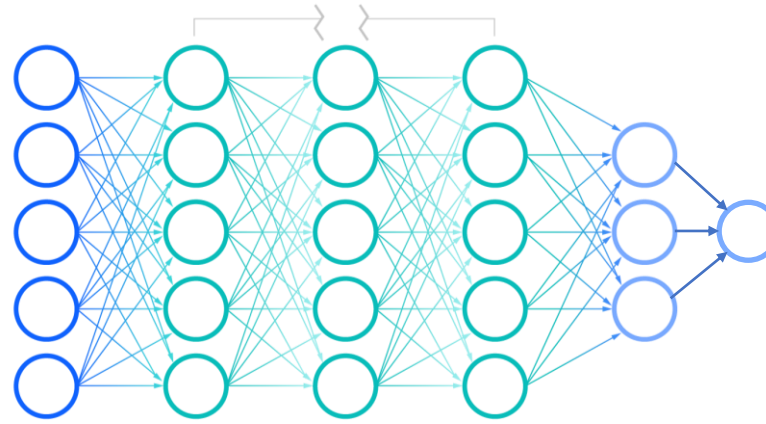
Train: **FEFFs**, a few **horz-shifted experimental spectra**

Val: **FEFFs** lots of **horz-shifted experimental spectra**

Test 1: **FEFFs**

Test 2: **Gaussian-noise-experimental**

Stage2 (S2): Augmentation Fine-Tuning-1



$$\theta_{initial}^{(S2)} = \theta_{final}^{(S1)}$$

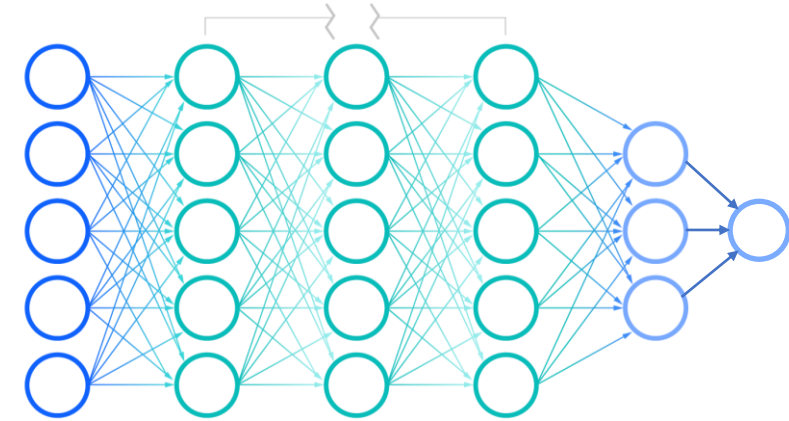
Train: **horz-shifted FEFFs**, **gaussian-noise-FEFFs**, a few **horz-shifted experimental spectra**

Val: **Same types as Train** + **horz-shifted and Gaussian-noise-experimental**

Test 1: **FEFFs**

Test 2: **Gaussian-noise-experimental**

Stage3 (S3): Experimental Fine-Tuning-2



$$\theta_{initial}^{(S3)} = \theta_{final}^{(S2)}$$

Train: **Horz-shifted-experimental** + **gaussian-shifted experimental**

Val: **Same types as Train**

Test 1: **Original IMASC experimental (MSD=.01)**, **Original Silica Wires experimental (MSD=.008)**