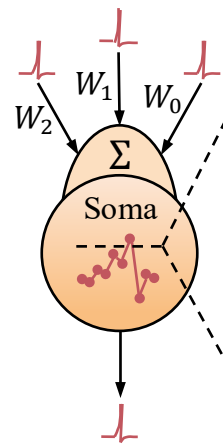
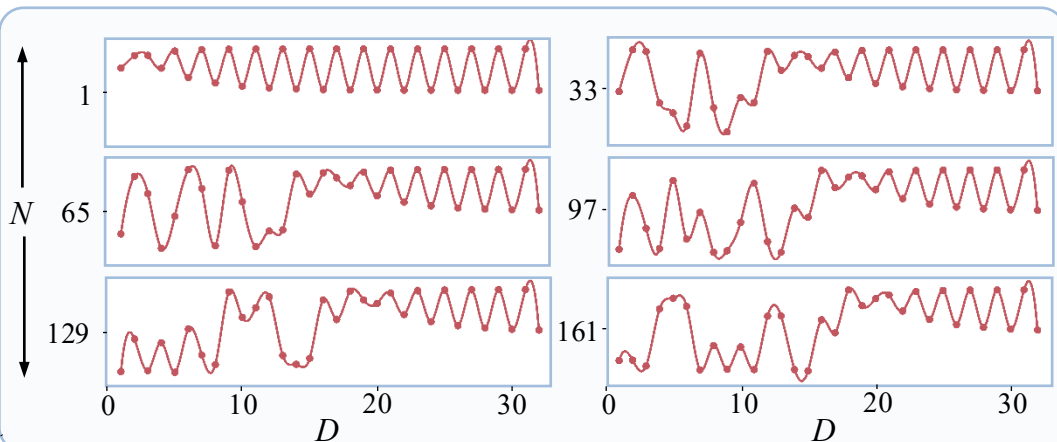


**(a) PE-LIF****Position-dependent Thresholds**

Matrix Multiplication

LIF Neuron Layer

PE-LIF Neuron Layer

Layer Norm

Element-wise Add

Spikes

**(b) Spiking Positional Encoding**