BCPNN and Sequence Learning

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1 Introduction

[1]

2 The BCPNN as a Sequence Learner

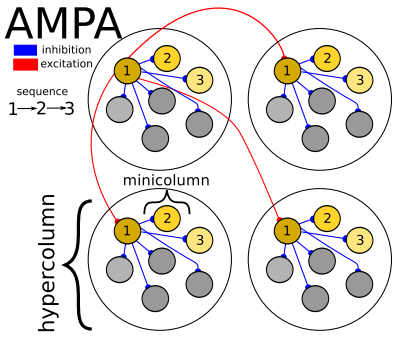

Figure 1: The network posses a wide dynamical range

$$\tau_m \frac{s_i}{dt} = \beta_i + \sum_j w_{ij} o_j + a_i - s_i$$

$$o = \frac{exp(s_i)}{\sum_j exp(s_j)}$$

$$\tau_z \frac{dz_i}{dt} = o_{i,k} - z_i$$

$$\tau_p \frac{dp_i}{dt} = z_i(t) - p_i(t)$$

$$\tau_p \frac{dp_{ij}}{dt} = z_i(t) z_j(t) - p_{ij}(t)$$

$$w_{ij} = \log(\frac{p_{ij}}{p_i p_j})$$

$$\beta_i = \log(p_i)$$

References

[1] K. Lashley. The problem of serial order in behavior. In *Cerebral mechanisms in behavior*, pages 112–136. 1951.