A Toric Variety from Machine Learning

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1 Introduction

2 McCulloch-Pitts Process

Given a directed graph $G = (V, E)$ with vertex weights $\beta_i > 0$ and edge weights $\alpha_{ij} > 0$, a *McCulloch-Pitts process, MPP* is an activity-based process with binary states $x \in \{0, 1\}^{|V|}$ and transitions xy where state y is one-bit away from state x. If y and x differs in the i-th bit, we define the transition rate

$$F_{xy} = [\beta_i^{\sigma_i} \alpha_i^{x\sigma_i}]^{1/\tau}$$

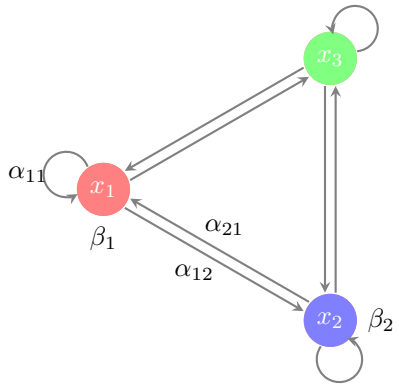

Figure 1: McCulloch-Pitts process with three neurons.