Erratum

Correction: A State-Space Analysis for Reconstruction of Goal-Directed Movements Using Neural Signals (*Neural Computation*, Volume 18, Number 10, pp. 2465–2494)

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1 Introduction

The purpose of this note is to address a typo present in the last term of Equation 2.16 of Srinivasan et al. (2006)

$$\Pi(t-1, T) = \phi(t-1, t)\Pi(t, T)\phi(t-1, t)^T$$
$$+ \boxed{\phi(t-1, t)\, Q_{t-1}\phi(t-1, t)^T} \tag{2.16}$$

Equation 2.16 should have instead been

$$\Pi(t-1, T) = \phi(t-1, T)\Pi_T\phi(t-1, T)^T + \sum_{i=t-1}^{T} \phi(t-1, i)Q_i\phi(t-1, i)^T$$
$$= \phi(t-1, t)\phi(t, T)\Pi_T\phi(t, T)^T\phi(t-1, t)^T$$
$$+ \sum_{i=t-1}^{T} \phi(t-1, i)Q_i\phi(t-1, i)^T$$
$$= \phi(t-1, t)\phi(t, T)\Pi_T\phi(t, T)^T\phi(t-1, t)^T$$
$$+ \sum_{i=t-1}^{T} \phi(t-1, t)\phi(t, i)Q_i\phi(t, i)^T\phi(t-1, t)^T$$

$$= \phi(t-1,t)\phi(t,T)\Pi_T\phi(t,T)^T\phi(t-1,t)^T$$

$$+ \phi(t-1,t)\left(\sum_{i=t}^{T}\phi(t,i)Q_i\phi(t,i)^T\right)\phi(t-1,t)^T + Q_{t-1}$$

$$= \phi(t-1,t)\left(\phi(t,T)\Pi_T\phi(t,T)^T + \sum_{i=t}^{T}\phi(t,i)Q_i\phi(t,i)^T\right)\phi(t-1,t)^T$$

$$+ Q_{t-1}$$

$$= \phi(t-1,t)\Pi(t,T)\phi(t-1,t)^T + \boxed{Q_{t-1}}$$

where the corrected term from Equation 2.16 has been outlined.

Reference

Srinivasan, L., Eden, U. T., Willsky, A. S., & Brown, E. N. (2006). A state-space analysis for reconstruction of goal-directed movements using neural signals. *Neural Computation*, *18*(10), 2465–2494.