Normal Differential Entropy

1 Why

What is the differential mutual information between two components of a multivariate normal.

2 Result

Proposition 1. *Let $g \sim \mathcal{N}(\mu, \Sigma)$ Then the differential entropy of g is*

$$\frac{1}{2} \ln \left((2\pi e)^d \det \Sigma \right)$$

Inv