

Multivariate Gaussian Distribution Problem

In the multivariate Gaussian distribution, what corresponds to the mean value and standard deviation of the one dimensional Normal (Gaussian) distribution? How does the multivariate case differ?

ANSWER:

It's the mean vector and the covariance matrix. The mean is extended to be a vector of all the individual properties' mean values. The covariance matrix contains all of the standard deviations of the individual variables (squared), plus also terms that encode the joint variation (covariance) between each pair of variables.