Multivariate Real Densities

1 Why

TODO

2 Definition

A *multivariate density* or *joint density* is a function from n-dimensional real space to the real numbers which is nonnegative and and normalized. A real-valued function on n-dimensional real space is *normalized* if it integrates to 1.

3 Notation

$f : \mathbf{R}^d \to \mathbf{R}$ with $f \geq 0$ and $\int f = 1$ is a density.