The nCopula package

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Abstract

The *nCopula* package aims to simplify the construction process and usage of hiearchical Archimedean copulas through compound distributions in R. Is is possible to build structures with clear representations, obtain expressions for Archimedean copulas, wether they are hiearchical or not, as well as other important functions (i.e. Laplace Stieltjes Transform, pgf, etc.), given a certain path and structure. Furthermore, the generation of random vectors is possible from any given structure.

1 Introduction

Let us consider different situations to illustrate how one can use the various functions in the package nCopula.

2 Generating vectors from defined structures

Node	Distribution	Parameter	Dimension
$M^{(0)}$	Geometric	0.5	3
$M^{(0,1)}$	Geometric	0.1	2
$\Theta^{(0,1,1)}$	Gamma	0.1	2
$\Theta^{(0,1,2)}$	Gamma	0.2	2
$\Theta^{(0,2)}$	Gamma	0.01	2
$M^{(0,3)}$	Geometric	0.5	2
$\Theta^{(0,3,1)}$	Geometric	0.01	2
$\Theta^{(0,3,1)}$	Logarithmic	0.9	2

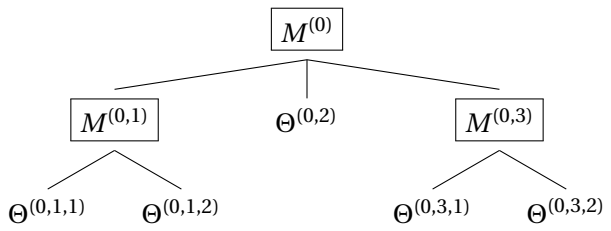

Figure 1

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