Bocconi
Università Commerciale
Luigi Bocconi

Department of Decision Sciences

Statistics Seminar

Discovering statistical equivalence classes of discrete statistical models using computer algebra

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Thursday, 12th January 2017
12:30pm Room 3-E4-SR03 Via Rontgen 1 Milano

Abstract

We show that representations of certain polynomials in terms of a nested factorization are intrinsically linked to labelled event trees. We give a recursive formula for the construction of such polynomials from a tree and present an algorithm in the computer algebra software CoCoA to derive all tree graphs from a polynomial. We finally use our results in applications linked to staged tree models.

(Joint work with Anna Bigatti (University of Genova, Italy), Christiane Goergen and Jim Q. Smith (The University of Warwick, UK)

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