

MODELING ANDNESS AND ORNESS

Jozo J. Dujmović

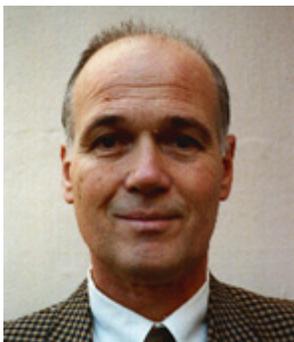
Department of Computer Science
San Francisco State University

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Abstract:

Observable properties of human reasoning in the area of system evaluation can be modeled using a function that supports a continuous transition from conjunction to disjunction. This aggregation function includes conjunctive and disjunctive properties and we call it the Generalized Conjunction/Disjunction (GCD), and symbolically denote $y = x_1 \diamond \dots \diamond x_n$, $x_i \in I = [0,1]$, $i = 1, \dots, n$, $y \in I$. Since GCD is located between the extreme cases of conjunction and disjunction we proposed two complementary parameters of such aggregators: the conjunction degree (andness) and the disjunction degree (orness). The andness ($\alpha \in I$) indicates the similarity between GCD and conjunction, and the orness ($\omega \in I$) indicates the similarity between GCD and disjunction; α and ω are complementary: $\alpha + \omega = 1$. The parameters $\alpha = 1, \omega = 0$ denote the full conjunction and $\alpha = 0, \omega = 1$ denote the full disjunction. The goal of this talk is to present various indicators of andness/orness, and to discuss their properties, similarities, differences, and applications.

Bio:



Jozo Dujmović was born in Dubrovnik and received his BSEE, MS, and Sc.D. from the University of Belgrade. He is Professor of Computer Science and former Chair of Computer Science Department at San Francisco State University. His teaching and research activities are in the areas of software metrics, decision analysis, and computer performance evaluation. He is the author of more than 120 refereed publications, recipient of three best paper awards, and a Senior Member of IEEE. He served as General Chair of IEEE MASCOTS 2000 and as General Chair of ACM WOSP 2004.

Before his current position at San Francisco State University, Dr. Dujmović was Professor of Computer Science at the University of Belgrade, University of Florida (Gainesville), University of Texas (Dallas), and Worcester Polytechnic Institute. In addition, he was teaching in the graduate Computer Science programs at the National Universities of San Luis and Jujuy (both in Argentina). At the University of Belgrade, he served as Chairman of Computer Science Department, and as founding Director of the Belgrade University Computing Center. His industrial experience includes work in the Institute "M. Pupin" in Belgrade, and consulting in the areas of decision methods, performance evaluation, and software design.