

Rašković, Miodrag; Ognjanović, Zoran; Petrović, Vladimir; Majstorović, Uroš

An automated theorem prover for the probability logic LPP. (English) [Zbl 1274.03041](#)

Krapež, A. (ed.), A tribute to S. B. Prešić. Papers celebrating his 65th birthday. Beograd: Matematički Institut SANU. 79-83 (2001).

Summary: We consider a propositional probability logic denoted LPP. LPP is a conservative extension of classical propositional logic. The language of LPP contains probability operators of the form $P_{\geq s}$ for every real number $s \in [0, 1]$. The intended meaning of a formula of the form $P_{\geq s}\alpha$ is ‘ α holds with probability at least s ’. We obtain a decision procedure for LPP by reducing probability formulas to systems of linear equalities and inequalities. We describe an automated theorem prover based on this procedure.

For the entire collection see [\[Zbl 0977.00051\]](#).

MSC:

[03B48](#) Probability and inductive logic

[03B35](#) Mechanization of proofs and logical operations

[68T15](#) Theorem proving (deduction, resolution, etc.) (MSC2010)