

Horváth, Tomáš; Vojtáš, Peter**Induction of fuzzy and annotated logic programs.** (English) [Zbl 1201.68089](#)

Muggleton, Stephen (ed.) et al., Inductive logic programming. 16th international conference, ILP 2006, Santiago de Compostela, Spain, August 24–27, 2006. Revised selected papers. Berlin: Springer (ISBN 978-3-540-73846-6/pbk). Lecture Notes in Computer Science 4455. Lecture Notes in Artificial Intelligence, 260-274 (2007).

Summary: The new direction of the research in the field of data mining is the development of methods to handle imperfection (uncertainty, vagueness, imprecision,...). The main interest in this research is focused on probability models. Besides these there is an extensive study of the phenomena of imperfection in fuzzy logic. In this paper we concentrate especially on fuzzy logic programs (FLP) and Generalized Annotated Programs (GAP). The lack of the present research in the field of fuzzy inductive logic programming (FILP) is that every approach has its own formulation of the proof-theoretic part (often dealing with linguistic hedges) and lack sound and complete formulation of semantics. Our aim in this paper is to propose a formal model of FILP and induction of GAP programs (IGAP) based on sound and complete model of FLP (without linguistic hedges) and its equivalence with GAP. We focus on learning from entailment setting in this paper. We describe our approach to IGAP and show its consistency and equivalence to FILP. Our inductive method is used for detection of user preferences in a web search application. Finally, we compare our approach to several fuzzy ILP approaches.

For the entire collection see [\[Zbl 1118.68005\]](#).

MSC:

[68T05](#) Learning and adaptive systems in artificial intelligence
[68N17](#) Logic programming

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