GEIST People - Prof. Antoni Ligęza

Prof. Antoni Ligeza (ligeza@agh.edu.pl) is a full professor in the domain of computer science at the AGH University of Science and Technology at Krakow, Poland. His principal area of investigation is Artificial Intelligence and Knowledge Engineering. He lectures on knowledge engineering, databases, Prolog, automated diagnosis, discrete mathematics and logics. He is a member of ACM and IEEE Computer Society. He is author and co-author of over 200 research publications1, including international conferences, journals, chapters in books. His recent book "Logical Foundations for Rule-Based Systems" was issued by Springer in 2006,it covers issues ranging from logical bases, propositional, attributive and first-order logics, through various forms of rule-based systems to design and verification issues. It presents a novel approach based on XTT (eXtended Tabular Trees) and ARD (Attribute Relationship Diagrams) for efficient design and implementation of complex rule-based systems. The XTT approach can be applied to develop the control system for autonomous robots. It offers features like hierarchical control, rule-based control, context-switching, backtracking, internal state representation, and many other. The control algorithm can be verified for completeness and consistency; it can be also easily extended and modified. Antoni Ligeza actively participated in numerous national and international projects (KBN, TEMPUS, POLONIUM); he was the head of KBN-Regulus Project2, the Mirella Project on XTT (eXtended Tabular Systsems) and recently HeKatE on hybrid knowledge engineering, and INDECT. He was visiting professor and he worked in Denmark (Technical University of Lyngby) 4 months, in France (LAAS of CNRS, Toulouse; University of Nancy I, Nancy; CRIL Lens; University of Caen, Caen) for about two years in total and in Spain (University of Balearic Islands, Palma de Mallorca; University of Girona, Girona) for about one year.

Professor Antoni Ligeza developed theory for reverse plan generation (backward planning) (Artificial Intelligence, 1990), the backward dual resolution method for automated theorem proving and completeness verification of rule-based systems (IJCAI'93), methodology for verification and design of rule-based systems based on the so-called psi-trees (ECAI Workshop 1996), concepts of granular sets and granular relations (AIMeth'02, IIS (Internet Information Services)'02, ANNIE'03), attributive granular logic (EMCSR'06) and theory for tabular rule-based systems (Springer, 2006). He also worked in areas such as Operational Research, Control Theory, Decision Theory, Diagnostics, Databases, and many other. He supervised numerous Ph.D. theses. He also serves as a reviewer for numerous international conferences and journals.

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