

# Lecture Notes in Computer Science

Edited by G. Goos and J. Hartmanis

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Alica Kelemenová Jozef Kelemen (Eds.)

## Trends, Techniques, and Problems in Theoretical Computer Science

4th International Meeting of Young Computer Scientists  
Smolenice, Czechoslovakia, October 13–17, 1986  
Selected Contributions

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## Foreword

This volume contains the written versions of selected contributions from the scientific programme of the **Fourth International Meeting of Young Computer Scientists** held at Smolenice Castle (Czechoslovakia), October 13-17, 1986.

Organized biennially since 1980, the meetings are intended to stimulate the scientific activity of beginners in computer science, mainly that of both university students in the final years of their studies and of graduates. Therefore, the scientific programme of the meetings include tutorials and more invited lectures than it is usual at conferences. Participants have the possibility to submit papers and to present their scientific results during the meetings, and to gain the first experience in the work of scientific meetings, as well as to gain an insight into contemporary trends, techniques, and problems of theoretical computer science and related fields.

In the present volume the texts of the tutorial of IMYCS'86 as well as the texts of all invited talks are included together with some selected short communications presented during the meeting's regular and informal evening sessions.

Thematically, the volume is divided into four chapters. Within each chapter the contributions are ordered alphabetically according to the authors' names.

In the first chapter papers devoted to the study of VLSI algorithms (J. Hromkovič), and to problems of formal language theory (J. Karhumäki, J. Sakarovitch, and Z. Tuza) are included.

The second chapter contains a communication by E. Csuhaj-Varjú and invited lectures by H. C. M. Kleijn and G. Păun dealing with various aspects of the theory of formal grammars.

Contributions in the third chapter deal with two biologically motivated formalisms: homogeneous structures (in the contribution by V. Aladyev) and L-systems in the texts of the IMYCS'86 tutorial delivered by A. Lindenmayer, and in the short communication by M. Kráľová.

#### IV

The fourth chapter is devoted to some (rather) theoretical topics of Artificial Intelligence, particularly to problems concerning the formal treatment of knowledge bases (in the contribution by I. Kalaš), to automation of hypotheses formation (in the invited paper by F. N. Springsteel), and to new perspectives of logic programming (in the invited paper by P. Szeredi).

We are indebted to all the contributors to this volume for their cooperation. Also we would like to express our gratitude to Prof. Arto Salomaa for supporting our idea to publish this selection, and to the Springer-Verlag for helping us to realize it.

Bratislava, August 1987

Alica Kelemenová  
Jozef Kelemen

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