Graphtheoretic Concepts In Computer Science 32nd International Workshop Wg 2006 Bergen Norway J

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Graph-Theoretic Concepts in Computer Science

The 33rd International Conference “Workshop on Graph-Theoretic Concepts in Computer Science” (WG 2007) took place in the Conference Center in old castleinDornburgnearJena,Germany,June21–23,2007.Theapproximately80 participants came from various countries all over the world, among them Brazil, Canada, the Czech Republic, France, UK, Greece, Hungary, Italy, Japan, The Netherlands, Norway, Sweden, Taiwan, and the USA. WG 2007 continued the series of 32 previous WG conferences. Since 1975, the WG conference has taken place 20 times in Germany, four times in The Netherlands, twice in Austria as well as once in Italy, Slovakia, Switzerland, the Czech Republic, France and in Norway. The WG conference traditionally aims at uniting theory and practice by demonstrating how graph-theoretic concepts can be applied to various areas in computer science, or by extracting new problems from applications. The goal is to present recent researchresults and to identify and exploredirections of future research. Thecontinuinginterestinthe WGconferenceswasre?ectedin thehighn- ber of submissions; 99 papers were submitted and in an evaluation process with four reports per submission, 30 papers were accepted by the Program Comm- tee for the conference. Due to the high number of submissions and the limited schedule of

3 days, various good papers could not be accepted. There were invited talks by Ming-Yang Kao (Evanston, Illinois) on algori- mic DNA assembly, and by Klaus Jansen (Kiel, Germany) on approximation algorithms for geometric intersection graphs.

Graph-theoretic Concepts in Computer Science

The 36th International Workshop on Graph-Theoretic Concepts in Computer Science (WG 2010) took place in Zar´ os, Crete, Greece, June 28–30, 2010. About 60 mathematicians and computer scientists from all over the world (Australia, Canada, Czech Republic, France, Germany, Greece, Hungary, Israel, Japan, The Netherlands, Norway, Poland, Switzerland, the UK, and the USA) attended the conference. WG has a long tradition. Since 1975, WG has taken place 21 times in Germany, four times in The Netherlands, twice in Austria, twice in France and once in the Czech Republic, Greece, Italy, Norway, Slovakia, Switzerland, and the UK. WG aims at merging theory and practice by demonstrating how concepts from graph theory can be applied to various areas in computer science, or by extracting new graph theoretic problems from applications. The goal is to presentemergingresearchresultsand to identify and exploredirections of future research.The conference is well-balanced with respect to established researchers and young scientists. There were 94 submissions, two of which where withdrawn before entering the review process. Each submission was carefully reviewed by at least 3, and on average 4.5, members of the Program Committee. The Committee accepted 28 papers, which makes an acceptance ratio of around 30%. I should stress that, due to the high competition and the limited schedule, there were papers that were not accepted while they deserved to be.

Graph-Theoretic Concepts in Computer Science

Aimed at "the mathematically traumatized," this text offers nontechnical coverage of graph theory, with exercises. Discusses planar graphs, Euler's formula, Platonic graphs, coloring, the genus of a graph, Euler walks, Hamilton walks, more. 1976 edition.

Graph-Theoretic Concepts in Computer Science

This book constitutes the refereed proceedings of the 28th International Workshop on Graph-Theoretic Concepts in Computer Science, WG 2002, held in Cesky Krumlov, Czech Republic in June 2002. The 36 revised full papers presented were carefully selected from initially 61 submissions during two rounds of reviewing and improvement. The papers provide a wealth of new results for various classes of graphs, graph computations, graph algorithms, and graph-theoretical applications in various fields.

Graph-Theoretic Concepts in Computer Science

This book constitutes the thoroughly refereed proceedings of the 38th International Workshop on Graph Theoretic Concepts in Computer Science (WG 2012) held in Jerusalem, Israel on June 26-28, 2012. The 29 revised full papers presented were

carefully selected and reviewed from 78 submissions. The papers are solicited describing original results on all aspects of graph-theoretic concepts in Computer Science, e.g. structural graph theory, sequential, parallel, randomized, parameterized, and distributed graph and network algorithms and their complexity, graph grammars and graph rewriting systems, graph-based modeling, graph-drawing and layout, random graphs, diagram methods, and support of these concepts by suitable implementations. The scope of WG includes all applications of graph-theoretic concepts in Computer Science, including data structures, data bases, programming languages, computational geometry, tools for software construction, communications, computing on the web, models of the web and scale-free networks, mobile computing, concurrency, computer architectures, VLSI, artificial intelligence, graphics, CAD, operations research, and pattern recognition

Parameterized Algorithms

This book constitutes the carefully refereed post-proceedings of the 22nd International Workshop on Graph-Theoretic Concepts in Computer Science, WG '96, held in Cadenabbia, Italy, in June 1996. The 30 revised full papers presented in the volume were selected from a total of 65 submissions. This collection documents the state of the art in the area. Among the topics addressed are graph algorithms, graph rewriting, hypergraphs, graph drawing, networking, approximation and optimization, trees, graph computation, and others.

Handbook of Graph Grammars and Computing by Graph Transformation

This book reflects the scientific program of the annual workshop on Graph-theoretic Concepts in Computer Science in 1987. The purpose of this conference is to be the "missing link" between theory and application of graphs in as many branches of computer science as a conference scheduled for three days without parallel sessions can permit. So the organizers of WG '87 addressed a selected group of people with a strong interest in theory and practice. The proceedings include latest results on "classical" graph-theoretic problems (including formal language theory applied to graphs) and how to apply those results to practical problems, e.g. data bases, layout of graph operating systems, software engineering, chemistry, and modelling with graphs.

The Steiner Tree Problem

This book constitutes the thoroughly refereed proceedings of the 39th International Workshop on Graph Theoretic Concepts in Computer Science, WG 2013, held in Lübeck, Germany, in June 2013. The 34 revised full papers presented were carefully reviewed and selected from 61 submissions. The book also includes two abstracts. The papers cover a wide range of topics in graph theory related to computer science, such as structural graph theory with algorithmic or complexity applications; design and analysis of sequential, parallel, randomized, parameterized and distributed graph and network algorithms; computational complexity of graph and network problems; computational geometry; graph grammars, graph rewriting systems and graph modeling; graph drawing and

layouts; random graphs and models of the web and scale-free networks; and support of these concepts by suitable implementations and applications.

Graph-theoretic Concepts in Computer Science

In recent years, algorithmic graph theory has become increasingly important as a link between discrete mathematics and theoretical computer science. This textbook introduces students of mathematics and computer science to the interrelated fields of graphs theory, algorithms and complexity.

Graph-Theoretic Concepts in Computer Science

Graph-Theoretic Concepts in Computer Science

Annotation. The papers presented were carefully reviewed and selected from 94 initial submissions. They feature original results on all aspects of graph-theoretic concepts in computer science such as structural graph theory, graph grammars and graph rewriting systems.

Introductory Graph Theory

This volume contains contributions to the 17th of a series of annual workshops for researchers using graph-theoretic methods in computer science.

Graph Theory and Computing

Proceedings of a workshop which aims to integrate theory and applications, and to find out mechanisms, concepts or tools which facilitate the implementation of solutions based on graphs. Numerous applications are covered.

Graph-Theoretic Concepts in Computer Science

Quantitative Graph Theory

Graph-theoretic concepts are developed by computer scientists in order to model algorithms, nets, rewriting systems, distributed systems, parallelism, geometric and layout concepts. Their complexity is studied under various randomness assumptions. This volume contains contributions to the twelfth of a series of annual workshops designed to bring together researchers using graph-theoretic methods. Its purpose is to broadcast emerging new developments from and to a diversity of application fields. The topics covered include: Graph Grammars, Graph Manipulation, Nets, Complexity Issues, Algorithmic and Network Considerations, Outerplanar Graphs, Graph Isomorphism, Parallelism and Distributed Systems, Graphs and Geometry, Randomness Considerations, Applications in Chemistry, Specific Algorithms. N

Graph-Theoretic Concepts in Computer Science

Because of its inherent simplicity, graph theory has a wide range of applications in engineering, and in physical sciences. It has of course uses in social sciences, in linguistics and in numerous other areas. In fact, a graph can be used to represent almost any physical situation involving discrete objects and the relationship among them. Now with the solutions to engineering and other problems becoming so complex leading to larger graphs, it is virtually difficult to analyze without the use of computers. This book is recommended in IIT Kharagpur, West Bengal for B.Tech Computer Science, NIT Arunachal Pradesh, NIT Nagaland, NIT Agartala, NIT Silchar, Gauhati University, Dibrugarh University, North Eastern Regional Institute of Management, Assam Engineering College, West Bengal Univerity of Technology (WBUT) for B.Tech, M.Tech Computer Science, University of Burdwan, West Bengal for B.Tech. Computer Science, Jadavpur University, West Bengal for M.Sc. Computer Science, Kalyani College of Engineering, West Bengal for B.Tech. Computer Science. Key Features: This book provides a rigorous yet informal treatment of graph theory with an emphasis on computational aspects of graph theory and graph-theoretic algorithms. Numerous applications to actual engineering problems are incorpo-rated with software design and optimization topics.

Graph-Theoretic Concepts in Computer Science

"This volume gives the proceedings of WG '90, the 16th in a series of workshops. The aim of the workshop series is to contribute to integration in computer science by applying graph-theoretic concepts. The workshops are unusual in that they combine theoretical aspects with practice and applications. The volume is organized into sections on: - Graph algorithms and complexity, - VLSI layout, - Multiprocessor systems and concurrency, - Computational geometry, - Graphs, languages and databases, - Graph grammars. The volume contains revised versions of nearly all the papers presented at the workshop. Several papers take the form of preliminary reports on ongoing research."--PUBLISHER'S WEBSITE.

Graph-Theoretic Concepts in Computer Science

The 18th International Workshop on Graph-Theoretic Concepts in Computer Science (WG '92) was held in Wiesbaden-Naurod, Germany, June 18-20, 1992. Itwas organized by the Department of Computer Science, Johann Wolfgang Goethe University, Frankfurt am Main. Contributions with original results inthe study and application of graph-theoretic concepts in various fields of computer science were solicited, and 72 papers were submitted and reviewed, from which 29 were selected for presentation at the workshop. The workshop was attended by 61 scientists from 16 countries. All 29 papers in the volume have undergone careful revision after the meeting, based on the discussions and comments from the audience and the referees. The volume is divided into parts on restricted graph classes, scheduling and related problems, parallel anbd distributed algorithms, combinatorial graph problems, graph decomposition, graph grammars and geometry, and modelling by graphs.

Graph-Theoretic Concepts in Computer Science

This book constitutes the thoroughly refereed postproceedings of the 29th International Workshop on Graph-Theoretic Concepts in Computer Science, WG 2003, held in Elspeet, The Netherlands in June 2003. The 30 revised full papers presented together with 2 invited papers were carefully reviewed, improved, and selected from 78 submissions. The papers present a wealth of new results for various classes of graphs, graph computations, graph algorithms, and graph-theoretical applications in various felds.

Graph-Theoretic Concepts in Computer Science

Clear, lively style covers all basics of theory and application, including mathematical models, elementary graph theory, transportation problems, connection problems, party problems, diagraphs and mathematical models, games and puzzles, more.

Graph-Theoretic Concepts in Computer Science

Graph grammars originated in the late 60s, motivated by considerations about pattern recognition and compiler construction. Since then, the list of areas which have interacted with the development of graph grammars has grown quite impressively. Besides the aforementioned areas, it includes software specification and development, VLSI layout schemes, database design, modeling of concurrent systems, massively parallel computer architectures, logic programming, computer animation, developmental biology, music composition, visual languages, and many others. The area of graph grammars and graph transformations generalizes formal language theory based on strings and the theory of term rewriting based on trees. As a matter of fact, within the area of graph grammars, graph transformation is considered a fundamental computation paradigm where computation includes specification, programming, and implementation. Over the last three decades, graph grammars have developed at a steady pace into a theoretically attractive and important-for-applications research field. Volume 2 of the indispensable Handbook of Graph Grammars and Computing by Graph Transformations considers applications to functional languages, visual and object-oriented languages, software engineering, mechanical engineering, chemical process engineering, and images. It also presents implemented specification languages and tools, and structuring and modularization concepts for specification languages. The contributions have been written in a tutorial/survey style by the top experts in the corresponding areas. This volume is accompanied by a CD-Rom containing implementations of specification environments based on graphtransformation systems, and tools whose implementation is based on the use of graph transformation systems.

Graph-Theoretic Concepts in Computer Science

During its 30-year existence, the International Workshop on Graph-Theoretic Concepts in Computer Science has become a distinguished and high-quality computer science event. The workshop aims at uniting theory and practice by demonstrating how graph-theoretic concepts can successfully be applied to v- ious areas of computer science and by exposing new theories emerging from

applications. In this way, WG provides a common ground for the exchange of information among people dealing with several graph problems and working in various disciplines. Thereby, the workshop contributes to forming an interdisplinary research community. The original idea of the Workshop on Graph-Theoretic Concepts in C- puter Science was ingenuity in all theoretical aspects and applications of graph concepts, wherever applied. Within the last ten years, the development has strengthened in particular the topic of structural graph properties in relation to computational complexity. This workshop has become pivotal for the c- munity interested in these areas.An aimspeci?c to the 30thWG was to support the central role of WG in both of the prementioned areas on the one hand and on the other hand to promote its originally broader scope. The 30th WG was held at the Physikzentrum Bad Honnef, which serves as the main meeting point of the German Physical Society. It o?ers a secluded setting for research conferences, seminars, and workshops, and has proved to be especiallystimulatingforfruitful discussions.Talksweregiveninthenewlecture hall with a modern double rear projection, interactive electronic board, and full video conferencing equipment.

Graph-Theoretic Concepts in Computer Science

This book constitutes the thoroughly refereed post-workshop proceedings of the 27th International Workshop on Graph-Theoretic Concepts in Computer Science, WG 2001, held in Boltenhagen, Germany, in June 2001. The 27 revised full papers presented together with two invited contributions were carefully reviewed and selected from numerous submissions. The papers provide a wealth of new results for various classes of graphs, graph computations, graph algorithms and graph-theoretical applications in various fields.

Graph-theoretic Concepts in Computer Science - WG '93

This pioneering book presents a study of the interrelationships among operator calculus, graph theory, and quantum probability in a unified manner, with significant emphasis on symbolic computations and an eye toward applications in computer science.Presented in this book are new methods, built on the algebraic framework of Clifford algebras, for tackling important real world problems related, but not limited to, wireless communications, neural networks, electrical circuits, transportation, and the world wide web. Examples are put forward in Mathematica throughout the book, together with packages for performing symbolic computations.

Operator Calculus On Graphs: Theory And Applications In Computer Science

This comprehensive textbook presents a clean and coherent account of most fundamental tools and techniques in Parameterized Algorithms and is a self-contained guide to the area. The book covers many of the recent developments of the field, including application of important separators, branching based on linear programming, Cut & Count to obtain faster algorithms on tree decompositions, algorithms based on representative families of matroids, and use of the Strong Exponential Time Hypothesis. A number of older results are revisited and explained

in a modern and didactic way. The book provides a toolbox of algorithmic techniques. Part I is an overview of basic techniques, each chapter discussing a certain algorithmic paradigm. The material covered in this part can be used for an introductory course on fixed-parameter tractability. Part II discusses more advanced and specialized algorithmic ideas, bringing the reader to the cutting edge of current research. Part III presents complexity results and lower bounds, giving negative evidence by way of W[1]-hardness, the Exponential Time Hypothesis, and kernelization lower bounds. All the results and concepts are introduced at a level accessible to graduate students and advanced undergraduate students. Every chapter is accompanied by exercises, many with hints, while the bibliographic notes point to original publications and related work.

Graph-Theoretic Concepts in Computer Science

Graph-Theoretic Concepts in Computer Science

This book constitutes the revised selected papers of the 37th International Workshop on Graph-Theoretic Concepts in Computer Science, WG 2011, held at Teplá Monastery, Czech Republic, in June 2011. The 28 revised papers presented were carefully reviewed and selected from 52 submissions. The workshop aims at merging theory and practice by demonstrating how concepts from graph theory can be applied to various areas in computer science, and by extracting new graph theoretic problems from applications.

Graph Theory with Applications to Engineering and Computer Science

This book constitutes the thoroughly refereed post-conference proceedings of the 40th International Workshop on Graph-Theoretic Concepts in Computer Science, WG 2014, held in Nouan-le-Fuzelier, France, in June 2014. The 32 revised full papers presented were carefully reviewed and selected from 80 submissions. The book also includes two invited papers. The papers cover a wide range of topics in graph theory related to computer science, such as design and analysis of sequential, parallel, randomized, parameterized and distributed graph and network algorithms; structural graph theory with algorithmic or complexity applications; computational complexity of graph and network problems; graph grammars, graph rewriting systems and graph modeling; graph drawing and layouts; computational geometry; random graphs and models of the web and scale-free networks; and support of these concepts by suitable implementations and applications.

Graph-Theoretic Concepts in Computer Science

This book constitutes the thoroughly refereed post-workshop proceedings of the 24th International Workshop on Graph-Theoretic Concepts in Computer Science, WG'98, held in Smolenice Castle, Slovak Republic, in June 1998. The 30 revised full papers presented were carefully selected from a total of 61 submissions. The papers provide a wealth of new results for various classes of graphs, graph computations, graph algorithms and graph-theoretic applications in computer

science.

Graph-Theoretic Concepts in Computer Science

This book constitutes the revised papers of the 45th International Workshop on Graph-Theoretic Concepts in Computer Science, WG 2019, held in Vall de Núria, Spain, in June 2019. The 29 full papers presented in this volume were carefully reviewed and selected from 87 submissions. They cover a wide range of areas, aiming at connecting theory and applications by demonstrating how graph-theoretic concepts can be applied in various areas of computer science. Another focus is on presenting recent results and on identifying and exploring promising directions of future research.

Graph-theoretic Concepts in Computer Science

This book constitutes the thoroughly refereed post-conference proceedings of the 34th International Workshop on Graph-Theoretic Concepts in Computer Science, WG 2008, held in Durham, UK, in June/July 2008. The 30 revised full papers presented together with 3 invited paper were carefully reviewed and selected from 76 submissions. The papers feature original results on all aspects of graph-theoretic concepts in Computer Science, e.g. structural graph theory, sequential, parallel, and distributed graph and network algorithms and their complexity, graph grammars and graph rewriting systems, graph-based modeling, graph-drawing and layout, diagram methods, and support of these concepts by suitable implementations.

Graph-Theoretic Concepts in Computer Science

This book constitutes the refereed proceedings of the 25th International Workshop on Graph-Theorie Concepts in Computer Science WG'99, held at the Centre Stefano Frascini on Monte Verita, Ascona, Switzerland in June 1999. The 33 revised full papers presented together with four invited contributions were carefully reviewed and selected from 64 papers submitted. The papers provide a wealth of new results for various graph classes, graph computations, graph algorithms and graph-theoretical applications in a variety of fields.

Graph-Theoretic Concepts in Computer Science

This book constitutes the revised selected papers of the 44th International Workshop on Graph-Theoretic Concepts in Computer Science, WG 2018, held in Cottbus, Germany, in June 2018. The 30 full papers presented in this volume were carefully reviewed and selected from 66 submissions. They cover a wide range of areas, aiming at connecting theory and applications by demonstrating how graph-theoretic concepts can be applied in various areas of computer science. Another focus is on presenting recent results and on identifying and exploring promising directions of future research.

Graph-Theoretic Concepts in Computer Science

This volume presents the proceedings of the 20th International Workshop on Graph-Theoretic Concepts in Computer Science (WG '94), held in Herrsching, Germany in June 1994. The volume contains 32 thoroughly revised papers selected from 66 submissions and provides an up-to-date snapshot of the research performed in the field. The topics addressed are graph grammars, treewidth, special graph classes, algorithms on graphs, broadcasting and architecture, planar graphs and related problems, and special graph problems.

Graph-Theoretic Concepts in Computer Science

This volume contains the proceedings of the 19th International Workshop on Graph-Theoretic Concepts in Computer Science, WG '93, held near Utrecht, The Netherlands, in 1993. The papers are grouped into parts on: hard problems on classes of graphs, structural graph theory, dynamic graph algorithms, structure-oriented graph algorithms, graph coloring, AT-free and chordal graphs, circuits and nets, graphs and interconnection networks, routing and shortest paths, and graph embedding and layout. The 35 revised papers were chosen from 92 submissions after a careful refereeing process.

Graph-Theoretic Concepts in Computer Science

This book constitutes the thoroughly refereed post-conference proceedings of the 35th International Workshop on Graph-Theoretic Concepts in Computer Science, WG 2009, held in Montpellier, France, in June 2009. The 28 revised full papers presented together with two invited papers were carefully reviewed and selected from 69 submissions. The papers feature original results on all aspects of graph-theoretic concepts in Computer Science, e.g. structural graph theory, sequential, parallel, and distributed graph and network algorithms and their complexity, graph grammars and graph rewriting systems, graph-based modeling, graph-drawing and layout, diagram methods, and support of these concepts by suitable implementations.

Graph-Theoretic Concepts in Computer Science

The first book devoted exclusively to quantitative graph theory, Quantitative Graph Theory: Mathematical Foundations and Applications presents and demonstrates existing and novel methods for analyzing graphs quantitatively. Incorporating interdisciplinary knowledge from graph theory, information theory, measurement theory, and statistical techniques, this book covers a wide range of quantitative-graph theoretical concepts and methods, including those pertaining to real and random graphs such as: Comparative approaches (graph similarity or distance) Graph measures to characterize graphs quantitatively Applications of graph measures in social network analysis and other disciplines Metrical properties of graphs and measures Mathematical properties of quantitative methods or measures in graph theory Network complexity measures and other topological indices Quantitative approaches to graphs using machine learning (e.g., clustering) Graph measures and statistics Information-theoretic methods to analyze graphs quantitatively (e.g., entropy) Through its broad coverage, Quantitative Graph Theory: Mathematical Foundations and Applications fills a gap in the contemporary

literature of discrete and applied mathematics, computer science, systems biology, and related disciplines. It is intended for researchers as well as graduate and advanced undergraduate students in the fields of mathematics, computer science, mathematical chemistry, cheminformatics, physics, bioinformatics, and systems biology.

Graph-Theoretic Concepts in Computer Science

The 32nd International Workshop on Graph-Theoretic Concepts in Computer Science (WG 2006) was held on the island of Sotra close to the city of Bergen on the west coast of Norway. The workshop was organized by the Algorithms Research Group at the Department of Informatics, University of Bergen, and it took place from June 22 to June 24. The 78 participants of WG 2006 came from the universities and research institutes of 17 di?erent countries. The WG 2006 workshop continues the series of 31 previous WG workshops. Since 1975, WG has taken place 20 times in Germany, four times in The Neth- lands, twice in Austria as well as oncein France, in Italy, in Slovakia, in Switz- land and in the Czech Republic, and has now been held for the ?rst time in Norway. The workshop aims at uniting theory and practice by demonstrating how graph-theoretic concepts can be applied to various areas in computer s- ence, or by extracting new problems from applications. The goal is to present recent research results and to identify and explore directions of future research. The talks showed how recent researchresults from algorithmic graph theory can be used in computer science and which graph-theoreticquestions arisefrom new developments in computer science. There were two fascinating invited lectures by Hans Bodlaender (Utrecht, The Netherlands) and Tandy Warnow (Austin, US

Introduction to Graph Theory

This book constitutes the thoroughly refereed post-workshop proceedings of the 26th International Workshop on Graph-Theoretic Concepts in Computer Science, WG 2000, held in Konstanz, Germany, in June 2000. The 26 revised full papers presented together with two invited contributions were carefully reviewed and selected from 51 submissions. The papers provide a wealth of new results for various classes of graphs, graph computations, graph algorithms and graph-theoretical applications in various fields.

Graph-Theoretic Concepts in Computer Science

Graph Theory and Computing focuses on the processes, methodologies, problems, and approaches involved in graph theory and computer science. The book first elaborates on alternating chain methods, average height of planted plane trees, and numbering of a graph. Discussions focus on numbered graphs and difference sets, Euclidean models and complete graphs, classes and conditions for graceful graphs, and maximum matching problem. The manuscript then elaborates on the evolution of the path number of a graph, production of graphs by computer, and graph-theoretic programming language. Topics include FORTRAN characteristics of GTPL, design considerations, representation and identification of graphs in a computer, production of simple graphs and star topologies, and production of stars

having a given topology. The manuscript examines the entropy of transformed finite-state automata and associated languages; counting hexagonal and triangular polyominoes; and symmetry of cubical and general polyominoes. Graph coloring algorithms, algebraic isomorphism invariants for graphs of automata, and coding of various kinds of unlabeled trees are also discussed. The publication is a valuable source of information for researchers interested in graph theory and computing.