Levenberg Marquardt Algorithm Matlab Code Shodhganga

This volume presents selected papers from IACMAG Symposium,The major themes covered in this conference are Earthquake Engineering, Ground Improvement and Constitutive Modelling. This volume will be of interest to researchers and practitioners in geotechnical and geomechanical engineering. This book constitutes the thoroughly refereed post-conference proceedings of the 8th Pacific Rim Symposium on Image and Video Technology, PSIVT 2017, held in Wuhan, China, in November 2017. The total of 39 revised papers was carefully reviewed and selected from 91 submissions. The Pacific-Rim Symposium on Image and Video Technology (PSIVT) is a high-quality series of symposia that aim at providing a forum for researchers and practitioners who are being involved, or are contributing to theoretical advances or practical implementations in image and video technology.

This book comprises the proceedings of International Conference on Research and Innovations in Mechanical Engineering (ICRIME 2013) organized by Guru Nanak Dev Engineering College, Ludhiana with support from AICTE, TEQIP,

DST and PTU, Jalandhar. This international conference served as a premier forum for communication of new advances and research results in the fields of mechanical engineering. The proceedings reflect the conference's emphasis on strong methodological approaches and focus on applications within the domain of mechanical engineering. The contents of this volume aim to highlight new theoretical and experimental findings in the fields of mechanical engineering and closely related fields, including interdisciplinary fields such as robotics and mechatronics.

This book embodies principles and applications of advanced soft computing approaches in engineering, healthcare and allied domains directed toward the researchers aspiring to learn and apply intelligent data analytics techniques. The first part covers AI, machine learning and data analytics tools and techniques and their applications to the class of several hospital and health real-life problems. In the later part, the applications of AI, ML and data analytics shall be covered over the wide variety of applications in hospital, health, engineering and/or applied sciences such as the clinical services, medical image analysis, management support, quality analysis, bioinformatics, device analysis and operations. The book presents knowledge of experts in the form of chapters with the objective to introduce the theme of intelligent data analytics and discusses associated

theoretical applications. At last, it presents simulation codes for the problems included in the book for better understanding for beginners.

A groundbreaking introduction to vectors, matrices, and least squares for engineering applications, offering a wealth of practical examples.

Combining analytic theory and modern computer-aided design techniques this volume will enable you to understand and design power transfer networks and amplifiers in next generation radio frequency (RF) and microwave communication systems. A comprehensive theory of circuits constructed with lumped and distributed elements is covered, as are electromagnetic field theory, filter theory, and broadband matching. Along with detailed roadmaps and accessible algorithms, this book provides up-to-date, practical design examples including: filters built with microstrip lines in C and X bands; various antenna matching networks over HF and microwave frequencies; channel equalizers with arbitary gain shapes; matching networks for ultrasonic transducers; ultra wideband microwave amplifiers constructed with lumped and distributed elements. A companion website details all Real Frequency Techniques (including line segment and computational techniques) with design tools developed on MatLab. Essential reading for all RF and circuit design engineers, this is also a great reference text for other electrical engineers and researchers working on the

development of communications applications at wideband frequencies. This book is also beneficial to advanced electrical and communications engineering students taking courses in RF and microwave communications technology. www.wiley.com/go/yarman_wideband

This volume deals with different computational intelligence (CI) techniques for solving real world power industry problems. It will be extremely helpful for the researchers as well as the practicing engineers in the power industry.

This book presents a carefully selected group of methods for unconstrained and bound constrained optimization problems and analyzes them in depth both theoretically and algorithmically. It focuses on clarity in algorithmic description and analysis rather than generality, and while it provides pointers to the literature for the most general theoretical results and robust software, the author thinks it is more important that readers have a complete understanding of special cases that convey essential ideas. A companion to Kelley's book, Iterative Methods for Linear and Nonlinear Equations (SIAM, 1995), this book contains many exercises and examples and can be used as a text, a tutorial for self-study, or a reference. Iterative Methods for Optimization does more than cover traditional gradient-based optimization: it is the first book to treat sampling methods, including the Hooke-Jeeves, implicit filtering, MDS, and Nelder-Mead schemes in a unified

way, and also the first book to make connections between sampling methods and the traditional gradient-methods. Each of the main algorithms in the text is described in pseudocode, and a collection of MATLAB codes is available. Thus, readers can experiment with the algorithms in an easy way as well as implement them in other languages.

Industrial process tomography (IPT) is becoming an important tool for Industry 4.0. It consists of multidimensional sensor technologies and methods that aim to provide unparalleled internal information on industrial processes used in many sectors. This book showcases a selection of papers at the forefront of the latest developments in such technologies.

The Special Issue Machining—Recent Advances, Applications and Challenges is intended as a humble collection of some of the hottest topics in machining. The manufacturing industry is a varying and challenging environment where new advances emerge from one day to another. In recent years, new manufacturing procedures have retained increasing attention from the industrial and scientific community. However, machining still remains the key operation to achieve high productivity and precision for high-added value parts. Continuous research is performed, and new ideas are constantly considered. This Special Issue summarizes selected high-quality papers which were submitted, peer-reviewed, and recommended by experts. It covers some (but not only) of the following topics: High performance operations for difficult-to-cut alloys, wrought and cast materials, light alloys, ceramics, etc.; Cutting tools, grades, substrates and coatings. Wear damage; Advanced cooling in machining: Minimum quantity of lubricant, dry or cryogenics; Modelling, focused on the reduction of risks, the process outcome,

and to maintain surface integrity; Vibration problems in machines: Active and passive/predictive methods, sources, diagnosis and avoidance; Influence of machining in new concepts of machine–tool, and machine static and dynamic behaviors; Machinability of new composites, brittle and emerging materials; Assisted machining processes by high-pressure, laser, US, and others; Introduction of new analytics and decision making into machining programming. We wish to thank the reviewers and staff from Materials for their comments, advice, suggestions and invaluable support during the development of this Special Issue. This monograph presents computational models that describe electro-mechanical characteristics of tapered and cylinder roller bearings in various industrial applications. Applying the Levenberg-Marquardt's algorithm to solving strongly nonlinear coupled equation systems, the computational models consisting of many circular slices per rolling element enable computations of the local Hertzian pressures at the elastohydrodynamic (EHD) contact area, the relating oil-film thickness in elastohydrodynamic lubrication (EHL), the limiting voltage of electro-pitting, bearing frictions, and fatigue lifetimes of the bearings for various load spectra. Using the best-known machine-learning method for clustering, the load spectrum is clustered in k cluster means based on the invariant damage number to accelerate the load spectrum. Furthermore, the accelerated load spectrum is used for the testing procedure of the bearings to reduce the testing time and costs as well. The target audience of this book primarily comprises graduate students in mechanical engineering and practicing engineers of electro-machines and transmission systems who want to computationally design tapered and cylinder roller bearings for the automotive industry and other industries, and to deeply dive into these relating working fields.

Technological improvements continue to push back the frontier of processor speed in modern computers. Unfortunately, the computational intensity demanded by modern research problems grows even faster. Parallel computing has emerged as the most successful bridge to this computational gap, and many popular solutions have emerged based on its concepts With current advancements in the modeling and simulation of systems and networks, researchers and developers are better able to determine the probable state of current systems and envision the state of future systems during the design stage. The uses and accuracies of these models are essential to every aspect of communication systems. Integrated Models for Information Communication Systems and Networks: Design and Development explores essential information and current research findings on information communication systems and networks. This reference source aims to assist professionals in the desire to enhance their knowledge of modeling at systems level with the aid of modern software packages.

This book covers topics on the basic models, assessments, and techniques to calculate evapotranspiration (ET) for practical applications in agriculture, forestry, and urban science. This simple and thorough guide provides the information and techniques necessary to develop, manage, interpret, and apply evapotranspiration ET data to practical applications. The simplicity of the contents assists technicians in developing ET data for effective water management.

This volume is part of the two-volume proceedings of the 19th International Conf- ence on Artificial Neural Networks (ICANN 2009), which was held in Cyprus during September 14–17, 2009. The ICANN conference is an annual meeting sp- sored by the European Neural Network Society (ENNS), in cooperation with the - ternational Neural Network Society (INNS) and the

Japanese Neural Network Society (JNNS). ICANN 2009 was technically sponsored by the IEEE Computational Intel- gence Society. This series of conferences has been held annually since 1991 in various European countries and covers the field of neurocomputing, learning systems and related areas. Artificial neural networks provide an information-processing structure inspired by biological nervous systems. They consist of a large number of highly interconnected processing elements, with the capability of learning by example. The field of artificial neural networks has evolved significantly in the last two decades, with active partici- tion from diverse fields, such as engineering, computer science, mathematics, artificial intelligence, system theory, biology, operations research, and neuroscience. Artificial neural networks have been widely applied for pattern recognition, control, optimization, image processing, classification, signal processing, etc.

The Industrial Electronics Handbook, Second Edition combines traditional and newer, more specialized knowledge that will help industrial electronics engineers develop practical solutions for the design and implementation of high-power applications. Embracing the broad technological scope of the field, this collection explores fundamental areas, including analog and digital circuits, electronics, electromagnetic machines, signal processing, and industrial control and communications systems. It also facilitates the use of intelligent systems—such as neural networks, fuzzy systems, and evolutionary methods—in terms of a hierarchical structure that makes factory control and supervision more efficient by addressing the needs of all production components. Enhancing its value, this fully updated collection presents research and global trends as published in the IEEE Transactions on Industrial Electronics Journal, one of the largest and most respected publications in the field. As intelligent systems continue to

replace and sometimes outperform human intelligence in decision-making processes, they have made substantial contributions to the solution of very complex problems. As a result, the field of computational intelligence has branched out in several directions. For instance, artificial neural networks can learn how to classify patterns, such as images or sequences of events, and effectively model complex nonlinear systems. Simple and easy to implement, fuzzy systems can be applied to successful modeling and system control. Illustrating how these and other tools help engineers model nonlinear system behavior, determine and evaluate system parameters, and ensure overall system control, Intelligent Systems: Addresses various aspects of neural networks and fuzzy systems Focuses on system optimization, covering new techniques such as evolutionary methods, swarm, and ant colony optimizations Discusses several applications that deal with methods of computational intelligence Other volumes in the set: Fundamentals of Industrial Electronics Power Electronics and Motor Drives Control and Mechatronics Industrial Communication Systems

This book comprises selected proceedings of the Fourth International Conference in Ocean Engineering (ICOE2018), focusing on emerging opportunities and challenges in the field of ocean engineering and offshore structures. It includes state-of-the-art content from leading international experts, making it a valuable resource for researchers and practicing engineers alike. The book presents a comprehensive and up-to-date review of fuzzy pattern recognition. It carefully discusses a range of methodological and algorithmic

issues, as well as implementations and case studies, and identifies the best design practices, assesses business models and practices of pattern recognition in real-world applications in industry, health care, administration, and business. Since the inception of fuzzy sets, fuzzy pattern recognition with its methodology, algorithms, and applications, has offered new insights into the principles and practice of pattern classification. Computational intelligence (CI) establishes a comprehensive framework aimed at fostering the paradigm of pattern recognition. The collection of contributions included in this book offers a representative overview of the advances in the area, with timely, in-depth and comprehensive material on the conceptually appealing and practically sound methodology and practices of CI-based pattern recognition.

Group method of data handling (GMDH) is a typical inductive modeling method built on the principles of self-organization. Since its introduction, inductive modelling has been developed to support complex systems in prediction, clusterization, system identification, as well as data mining and knowledge extraction technologies in social science, science, engineering, and medicine. This is the first book to explore GMDH using MATLAB (matrix laboratory) language. Readers will learn how to implement GMDH in MATLAB as a method of dealing with big data analytics. Error-free source codes in MATLAB have been

included in supplementary material (accessible online) to assist users in their understanding in GMDH and to make it easy for users to further develop variations of GMDH algorithms. Contents:Basic/Standard GMDH:Introduction (Godfrey C Onwubolu)GMDH Multilayered Algorithm (Godfrey C Onwubolu)GMDH Multilayered Algorithm in MATLAB (Mohammed Abdalla Ayoub Mohammed)Hybrid GMDH System:GMDH-Based Polynomial Neural Network Algorithm in MATLAB (Elaine Inácio Bueno, Iraci Martinez Pereira and Antonio Teixeira e Silva)Designing GMDH Model Using Modified Levenberg Marquardt Technique in Matlab (Maryam Pournasir Roudbaneh)Group Method of Data Handing Using Discrete Differential Evolution in Matlab (Donald Davendra, Godfrey Onwubolu and Ivan Zelinka) Readership: Professionals and students interested in data mining and analytics.

A graduate textbook that provides a unified treatment of machine learning methods and their applications in the environmental sciences.

This book constitutes the refereed proceedings of the Second International Conference, TPNC 2013, held in Cáceres, Spain, in December 2013. The 19 revised full papers presented together with one invited talk were carefully reviewed and selected from 47 submissions. The papers are organized in topical sections on nature-inspired models of computation; synthesizing nature by

means of computation; nature-inspired materials and information processing in nature.

Choose the Correct Solution Method for Your Optimization ProblemOptimization: Algorithms and Applications presents a variety of solution techniques for optimization problems, emphasizing concepts rather than rigorous mathematical details and proofs. The book covers both gradient and stochastic methods as solution techniques for unconstrained and co

This book introduces a variety of neural network methods for solving differential equations arising in science and engineering. The emphasis is placed on a deep understanding of the neural network techniques, which has been presented in a mostly heuristic and intuitive manner. This approach will enable the reader to understand the working, efficiency and shortcomings of each neural network technique for solving differential equations. The objective of this book is to provide the reader with a sound understanding of the foundations of neural networks and a comprehensive introduction to neural network methods for solving differential equations together with recent developments in the techniques and their applications. The book comprises four major sections. Section I consists of a brief overview of differential equations and the relevant physical problems arising in science and engineering. Section II illustrates the history of

neural networks starting from their beginnings in the 1940s through to the renewed interest of the 1980s. A general introduction to neural networks and learning technologies is presented in Section III. This section also includes the description of the multilayer perceptron and its learning methods. In Section IV, the different neural network methods for solving differential equations are introduced, including discussion of the most recent developments in the field. Advanced students and researchers in mathematics, computer science and various disciplines in science and engineering will find this book a valuable reference source.

Industrial electronics systems govern so many different functions that vary in complexity-from the operation of relatively simple applications, such as electric motors, to that of more complicated machines and systems, including robots and entire fabrication processes. The Industrial Electronics Handbook, Second Edition combines traditional and new

This book constitutes the refereed proceedings of the 5th European Conference on Principles of Data Mining and Knowledge Discovery, PKDD 2001, held in Freiburg, Germany, in September 2001. The 40 revised full papers presented together with four invited contributions were carefully reviewed and selected from close to 100 submissions. Among the topics addressed are hidden Markov models, text summarization, supervised learning, unsupervised

learning, demographic data analysis, phenotype data mining, spatio-temporal clustering, Web-usage analysis, association rules, clustering algorithms, time series analysis, rule discovery, text categorization, self-organizing maps, filtering, reinforcemant learning, support vector machines, visual data mining, and machine learning.

This book is a general presentation of complex systems, examined from the point of view of management. There is no standard formula to govern such systems, nor to effectively understand and respond to them. The interdisciplinary theory of self-organization is teeming with examples of living systems that can reorganize at a higher level of complexity when confronted with an external challenge of a certain magnitude. Modern businesses, considered as complex systems, ideally know how to flexibly and resiliently adapt to their environment, and also how to prepare for change via self-organization. Understanding sources of potential crisis is essential for leaders, though not all crises are necessarily bad news, as creative firms know how to respond to challenges through innovation: new products and markets, organizational learning for collective intelligence, and more.

This book introduces the methods for predicting the future behavior of a system's health and the remaining useful life to determine an appropriate maintenance schedule. The authors introduce the history, industrial applications, algorithms, and benefits and challenges of PHM (Prognostics and Health Management) to help readers understand this highly interdisciplinary engineering approach that incorporates sensing technologies, physics of failure, machine learning, modern statistics, and reliability engineering. It is ideal for beginners because it introduces various prognostics algorithms and explains their attributes, pros and cons in terms of model definition, model parameter estimation, and ability to handle noise and bias in data,

allowing readers to select the appropriate methods for their fields of application.Among the many topics discussed in-depth are:• Prognostics tutorials using least-squares• Bayesian inference and parameter estimation• Physics-based prognostics algorithms including nonlinear least squares, Bayesian method, and particle filter• Data-driven prognostics algorithms including Gaussian process regression and neural network• Comparison of different prognostics algorithms divThe authors also present several applications of prognostics in practical engineering systems, including wear in a revolute joint, fatigue crack growth in a panel, prognostics using accelerated life test data, fatigue damage in bearings, and more. Prognostics tutorials with a Matlab code using simple examples are provided, along with a companion website that presents Matlab programs for different algorithms as well as measurement data. Each chapter contains a comprehensive set of exercise problems, some of which require Matlab programs, making this an ideal book for graduate students in mechanical, civil, aerospace, electrical, and industrial engineering and engineering mechanics, as well as researchers and maintenance engineers in the above fields.

This book presents two new decomposition methods to decompose a time series in intrinsic components of low and high frequencies. The methods are based on Singular Value Decomposition (SVD) of a Hankel matrix (HSVD). The proposed decomposition is used to improve the accuracy of linear and nonlinear auto-regressive models. Linear Auto-regressive models (AR, ARMA and ARIMA) and Auto-regressive Neural Networks (ANNs) have been found insufficient because of the highly complicated nature of some time series. Hybrid models are a recent solution to deal with non-stationary processes which combine pre-processing techniques with conventional forecasters, some pre-processing techniques broadly

implemented are Singular Spectrum Analysis (SSA) and Stationary Wavelet Transform (SWT). Although the flexibility of SSA and SWT allows their usage in a wide range of forecast problems, there is a lack of standard methods to select their parameters. The proposed decomposition HSVD and Multilevel SVD are described in detail through time series coming from the transport and fishery sectors. Further, for comparison purposes, it is evaluated the forecast accuracy reached by SSA and SWT, both jointly with AR-based models and ANNs. This volume represents the proceedings of a prestigious international conference organized by Loughborough University which will be of interest to all those involved in this rapidly advancing field, proving to be a vital read for all who wish to be well informed of developments and advances. Also included is a CD-ROM containing all the papers that were presented at the conference. The CD-ROM has been created using Adobe Acrobat Reader 5.0 with Search. Acrobat Reader is a unique software application that allows the user the opportunity to view, search, download, and print information electronically generated and produced in PDF format. It has extensive search facilities by author, subject, key-words, etc. Topics covered include: Fundamental Enabling Technologies Automatic Control of Mechatronic Systems Mechatronic Components Robotics and Automation Mobile robots Integrated Mechatronic Systems Biomedical Applications Mechatronics Education
Selected Papers from the 9th World Congress on Industrial Process TomographyMDPI
This book constitutes the refereed proceedings of the 4th International Conference on Computer Vision/Computer Graphics Collaboration Techniques, MIRAGE 2009, held in Rocquencourt, France, in May 2009. The 41 revised full papers presented were carefully reviewed and selected from a total of 83 submissions. The papers cover a wide range of topics

with focus on Computer Vision/Computer Graphics collaboration techniques involving image analysis/synthesis approaches especially concerning theoretical, computational, experimental or industrial aspects of model-based image analysis and image-based model synthesis.

A systematic approach to profit optimization utilizing strategic solutions and methodologies for the chemical process industry In the ongoing battle to reduce the cost of production and increase profit margin within the chemical process industry, leaders are searching for new ways to deploy profit optimization strategies. Profit Maximization Techniques For Operating Chemical Plants defines strategic planning and implementation techniques for managers, senior executives, and technical service consultants to help increase profit margins. The book provides in-depth insight and practical tools to help readers find new and unique opportunities to implement profit optimization strategies. From identifying where the large profit improvement projects are to increasing plant capacity and pushing plant operations towards multiple constraints while maintaining continuous improvements—there is a plethora of information to help keep plant operations on budget. The book also includes information on: ? Take away methods and techniques for identifying and exploiting potential areas to improve profit within the plant ? Focus on latest Artificial Intelligence based modeling, knowledge discovery and optimization strategies to maximize profit in running plant. ? Describes procedure to develop advance process monitoring and fault diagnosis in running plant ? Thoughts on engineering design , best practices and monitoring to sustain profit improvements ? Step-by-step guides to identifying, building, and deploying improvement applications For leaders and technologists in the industry who want to maximize profit margins, this text provides basic concepts, guidelines, and step-by-step guides specifically for the chemical plant sector.

WILEY-INTERSCIENCE PAPERBACK SERIES The Wiley-Interscience Paperback Series consists of selected books that have been made more accessible to consumers in an effort to increase global appeal and general circulation. With these new unabridged softcover volumes, Wiley hopes to extend the lives of these works by making them available to future generations of statisticians, mathematicians, and scientists. From the Reviews of Nonlinear Regression "A very good book and an important one in that it is likely to become a standard reference for all interested in nonlinear regression; and I would imagine that any statistician concerned with nonlinear regression would want a copy on his shelves." –The Statistician "Nonlinear Regression also includes a reference list of over 700 entries. The compilation of this material and cross-referencing of it is one of the most valuable aspects of the book. Nonlinear Regression can provide the researcher unfamiliar with a particular specialty area of nonlinear regression an introduction to that area of nonlinear regression and access to the appropriate references . . . Nonlinear Regression provides by far the broadest discussion of nonlinear regression models currently available and will be a valuable addition to the library of anyone interested in understanding and using such models including the statistical researcher." –Mathematical Reviews

Calorimetry, the latest volume in the Methods in Enzymology series continues the legacy of this premier serial with quality chapters authored by leaders in the field. Calorimetry is a highly technical experiment and it is easy for new practioners to get fooled into interpreting artifacts as real experimental results. This volume will guide readers to get the most out of their precious biological samples and includes topics on specific protocols for the types of studies being conducted as well as tips to improve the data collection. Most importantly, the chapters

will also help to identify pitfalls that need to be avoided to ensure that the highest quality results are obtained. Contains timely contributions from recognized experts in this rapidly changing field Provides specific protocols and tips to improve data collection and ensure the highest quality results are obtained Covers research methods in calorimetry, and includes sections on topics such as differential scanning calorimetry of membrane and soluble proteins in detergents.

Although the use of fuzzy control methods has grown nearly to the level of classical control, the true understanding of fuzzy control lags seriously behind. Moreover, most engineers are well versed in either traditional control or in fuzzy control-rarely both. Each has applications for which it is better suited, but without a good understanding of both, engineers cannot make a sound determination of which technique to use for a given situation. A First Course in Fuzzy and Neural Control is designed to build the foundation needed to make those decisions. It begins with an introduction to standard control theory, then makes a smooth transition to complex problems that require innovative fuzzy, neural, and fuzzy-neural techniques. For each method, the authors clearly answer the questions: What is this new control method? Why is it needed? How is it implemented? Real-world examples, exercises, and ideas for student projects reinforce the concepts presented. Developed from lecture notes for a highly successful course titled The Fundamentals of Soft Computing, the text is written in the same reader-friendly style as the authors' popular A First Course in Fuzzy Logic text. A First Course in Fuzzy and Neural Control requires only a basic background in mathematics and engineering and does not overwhelm students with unnecessary material but serves to motivate them toward more advanced studies.

The location of an object can often be determined from indirect measurements using a process called estimation. This book explains the mathematical formulation of location-estimation problems and the statistical properties of these mathematical models. It also presents algorithms that are used to resolve these models to obtain location estimates, including the simplest linear models, nonlinear models (location estimation using satellite navigation systems and estimation of the signal arrival time from those satellites), dynamical systems (estimation of an entire path taken by a vehicle), and models with integer ambiguities (GPS location estimation that is centimeter-level accurate). Location Estimation from the Ground Up clearly presents analytic and algorithmic topics not covered in other books, including simple algorithms for Kalman filtering and smoothing, the solution of separable nonlinear optimization problems, estimation with integer ambiguities, and the implicit-function approach to estimating covariance matrices when the estimator is a minimizer or maximizer. It takes a unified approach to estimation while highlighting the differences between classes of estimation problems. The only book on estimation written for math and computer science students and graduates, it includes problems at the end of each chapter, many with solutions, to help readers deepen their understanding of the material and guide them through small programming projects that apply theory and algorithms to the solution of real-world location-estimation problems. The book's core audience consists of engineers, including software engineers and algorithm developers, and graduate students who work on location-estimation projects and who need help translating the theory into algorithms, code, and deep understanding of the problem in front of them. Instructors in mathematics, computer science, and engineering may also find the book of interest as a primary or supplementary text for

courses in location estimation and navigation.

The aim of this volume is to provide deep insights and the latest scientific developments and trends in experimental economics. Derived from the 2015 Computational Methods in Experimental Economics (CMEE) conference, this book features papers containing research and analysis of economic experiments concerning research in such areas as management science, decision theory, game theory, marketing and political science. The goal is to present possibilities for using various computer methods in the scope of experimental economics to further provide researchers with a wide variety of tools. The field of experimental economics is rapidly evolving. Modern use of experimental economics requires the integration of knowledge in the domains of economic sciences, computer science, psychology, and neuroscience. Recent research includes experiments conducted both in the laboratory and in the field, and the results are used for testing and a better understanding of economic theories. Researchers working in this field use mainly a set of well-established methods and computer tools that support the experiments. Methods such as artificial intelligence, computer simulation and computer graphics, however, are not represented enough in experimental economics studies and most experimenters do not consider their usage. The goal of the conference and the enclosed papers is to allow for an exchange of experiences and to promote joint initiatives to insight change in this trend.

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