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BOOK REPORTS

The Book Reports section is a regular feature of *Computers & Mathematics with Applications*. It is an unconventional section. The Editors decided to break with the longstanding custom of publishing either lengthy and discursive reviews of a few books, or just a brief listing of titles. Instead, we decided to publish every important material detail concerning those books submitted to us by publishers, which we judge to be of potential interest to our readers. Hence, breaking with custom, we also publish a complete table of contents for each such book, but no review of it as such. We welcome our readers' comments concerning this enterprise. Publishers should submit books intended for review to the Editor-in-Chief,

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Optimization: Foundations and Applications. By Ronald E. Miller. John Wiley & Sons, Inc., New York. (2000). 653 pages. £96.95.

Contents:

Preface. I. Foundations: Linear methods. 1. Matrix algebra. 2. Systems of linear equations. II. Foundations: Nonlinear methods. 3. Unconstrained maximization and minimization. 4. Constrained maximization and minimization. III. Applications: Iterative methods for nonlinear problems. 5. Solving nonlinear equations. 6. Solving unconstrained maximization and minimization problems. IV. Applications: Constrained optimization in linear models. 7. Linear programming: Fundamentals. 8. Linear programming: Extensions. 9. Linear programming: Interior point methods. V. Applications: Constrained optimization in nonlinear models. 10. Nonlinear programming: Fundamentals. 11. Nonlinear programming: Duality and computational methods. Answers to selected problems. Index.

A Guide to Microsoft Excel for Business and Management. By Bernard V. Liengme. Arnold/John Wiley & Sons, Inc., London/New York. (2000). 217 pages. £16.99.

Contents:

Preface. 1. The Microsoft® Excel window. 2. Formulas and formats. 3. Cell references and names. 4. Using functions. 5. The decision functions. 6. Printing a worksheet. 7. Charts. 8. Modelling. 9. Goal seek and solver. 10. Working with lists. 11. Dates and times. 12. Report writing. Appendices. A. Microsoft Excel add-ins. B. Answers to problems. Index.

Model Building in Mathematical Programming, Fourth Edition. By H. Paul Williams. John Wiley & Sons, Inc., Chichester. (1999). 354 pages. £24.95.

Contents:

Preface. Part I. 1. Introduction. 2. Solving mathematical programming models. 3. Building linear programming models. 4. Structured linear programming models. 5. Applications and special types of mathematical programming model. 6. Interpreting and using the solution of a linear programming model. 7. Non-linear models. 8. Integer programming. 9. Building integer programming models I. 10. Building integer programming models II. 11. The implementation of a mathematical programming system of planning. Part II. 12. The problems. Part III. 13. Formulation and discussion of problems. Part IV. 14. Solutions to problems. References. Author index. Subject index.

Mathematical Principles of Fuzzy Logic. By Vilém Novák, Irina Perfilieva and Jiří Močkoř. Kluwer Academic Publishers, Boston. (1999). 320 pages. \$135.00, NLG 315, GBP 93.25.

Contents:

Preface. 1. Fuzzy logic: What, why, for which? 2. Algebraic structures for logical calculi. 3. Logical calculi and model theory. 4. Fuzzy logic in narrow sense. 5. Functional systems in fuzzy logic theories. 6. Fuzzy logic in broader sense. 7. Topoi and categories of fuzzy sets. 8. Few historical and concluding remarks. References. Index.

Introduction to Discrete Dynamical Systems and Chaos. By Mario Martelli. John Wiley & Sons, Inc., New York. (1999). 328 pages. £45.50.

Contents:

1. Discrete dynamical systems. 2. One-dimensional dynamical systems. 3. \mathbf{R}^n , matrices, and functions. 4. Discrete linear dynamical systems. 5. Nonlinear dynamical systems. 6. Chaotic behavior. 7. Analysis of four dynamical systems. Appendices. 1. Mathematica programs. 2. References and projects. 3. Answers to selected problems. Index.

DocBook: The Definitive Guide. By Norman Walsh and Leonard Mueller. O'Reilly, Sebastopol, CA. (1999). 635 pages. \$36.95 (CD-ROM included).

Contents:

Preface. I. Introduction. 1. Getting started with SGML/XML. 2. Creating DocBook documents. 3. Parsing DocBook documents. 4. Publishing DocBook documents. 5. Customizing DocBook. II. Reference. Docbook element reference. DocBook parameter entity reference. DocBook character entity reference. III. Appendixes. A. Installation. B. DocBook and XML. C. DocBook versions. D. Resources. E. What's on the CD-ROM? F. Interchanging DocBook documents. G. DocBook V3.1 quick reference. Glossary. Index.

Introduction to Real Analysis, Third Edition. By Robert G. Bartle and Donald R. Sherbert. John Wiley & Sons, Inc., New York. (2000). 388 pages. £29.95.

Contents:

1. Preliminaries. 2. The real numbers. 3. Sequences and series. 4. Limits. 5. Continuous functions. 6. Differentiation. 7. The Riemann integral. 8. Sequences of functions. 9. Infinite series. 10. The generalized Riemann integral. 11. A glimpse into topology. Appendixes. A. Logic and proofs. B. Finite and countable sets. C. The Riemann and Lebesgue criteria. D. Approximate integration. E. Two examples. References. Photo credits. Hints for selected exercises. Index.

A History of Algorithms: From the Pebble to the Microchip. Edited by Jean-Luc Chabert. Springer, Berlin. (1999). 524 pages. \$59.95, DM 98.00, öS 716.00, sFr 89.50, GBP 37.50.

Contents:

Introduction. 1. Algorithms for arithmetic operations. 2. Magic squares. 3. Methods of false position. 4. Euclid's algorithm. 5. From measuring the circle to calculating π . 6. Newton's methods. 7. Solving equations by successive approximations. 8. Algorithms in arithmetic. 9. Solving systems of linear equations. 10. Tables and interpolation. 11. Approximate quadratures. 12. Approximate solutions of differential equations. 13. Approximation of functions. 14. Acceleration of convergence. 15. Towards the concept of algorithm. Biographies. General index. Index of names.

Applications of Lie Algebras to Hyperbolic and Stochastic Differential Equations. By Constantin Vărsan. Kluwer Academic Publishers, Dordrecht. (1999). 238 pages. \$136.00, NLG 225, GBP 79.

Contents:

Preface. Introduction. 1. Gradient systems in a Lie algebra. 2. Representation of a gradient system. 3. F.G.O. Lie algebras. 4. Applications. 5. Stabilization and related problems. Appendix. Bibliography. Subject index.

Complex Analysis through Examples and Exercises. By Endre Pap. Kluwer Academic Publishers, Dordrecht. (1999). 337 pages. \$155.00, NLG 255, GBP 90.

Contents:

Preface. 1. The complex numbers. 2. Sequences and series. 3. Complex functions. 4. Conformal mappings. 5. The integral. 6. The analytic functions. 7. Isolated singularities. 8. Residues. 9. Analytic continuation. 10. Integral transforms. 11. Miscellaneous examples. Bibliography. List of symbols. Index.

Algebra Interactive! Learning Algebra in an Exciting Way. By Arjeh M. Cohen, Hans Cuypers and Hans Sterk. Springer, Berlin. (1999). 159 pages. \$39.95, DM 59.00, öS 431.00, sFr 54.00, GBP 22.50 (CD-ROM included).

Contents:

1. Arithmetic. 2. Modular arithmetic. 3. Polynomials. 4. Arithmetic modulo polynomials. 5. Permutations. 6. Monoids and groups. 7. Rings and fields. 8. Permutation groups. 9. Appendix: A guide to Algebra Interactive.

Squaring the Circle: The War between Hobbes and Wallis. By Douglas M. Jesseph. University of Chicago Press, Chicago. (1999). 419 pages. \$80.00, £56.00 (cloth); \$28.00, £20.00 (paper).

Contents:

Preface. List of abbreviations. 1. The mathematical career of the monster of Malmesbury. 2. The reform of mathematics and of the universities: Ideological origins of the dispute. 3. *De corpore* and the mathematics of materialism. 4. Disputed foundations: Hobbes vs. Wallis on the philosophy of mathematics. 5. The "modern analytics" and the nature of demonstration. 6. The demise of Hobbesian geometry. 7. The religion, rhetoric, and politics of Mr. Hobbes and Dr. Wallis. 8. Persistence in error: Why was Hobbes so resolutely wrong? Appendix. Selections from Hobbes's mathematical writings. References. Index.

Finite Element Method for Hemivariational Inequalities: Theory, Methods and Applications. By Jaroslav Haslinger, Markku Miettinen and Panagiotis D. Panagiotopoulos. Kluwer Academic Publishers, Dordrecht. (1999). 260 pages. \$128.00, NLG 240, GBP 79.

Contents:

Preface. List of notations. Introduction. I. Introductory topics. 1. Mathematical preliminaries. 2. Nonsmooth mechanics. II. Finite element approximation of hemivariational inequalities. 3. Approximation of elliptic hemivariational inequalities. 4. Time dependent case. III. Nonsmooth optimization methods. 5. Nonsmooth optimization methods. IV. Numerical examples. 6. Numerical examples. Index.

Revealing Statistical Principles. By Jim Lindsey. Arnold/Oxford University Press, London/New York. (1999). 217 pages. \$24.95.

Contents:

Preface. 1. Planning a study. 2. Sample surveys. 3. Experimental trials. 4. Data analysis. 5. Reporting the results. Bibliography. Index.

Statistical Regression with Measurement Error. By Chi-Lun Cheng and John W. Van Ness. Arnold/Oxford University Press, London/New York. (1999). 262 pages. \$55.00.

Contents:

Preface. 1. Introduction to linear measurement error models. 2. Properties of estimates and predictors. 3. Comparing model assumptions and modifying least squares. 4. Alternative approaches to the measurement error model. 5. Linear measurement error model with vector explanatory variables. 6. Polynomial measurement error models. 7. Robust estimation in measurement error models. 8. Additional topics. Appendix A. Identification in measurement error models. Bibliography. Author index. Subject index.

Neuro-Fuzzy Pattern Recognition: Methods in Soft Computing. By Sankar K. Pal and Sushmita Mitra. John Wiley & Sons, Inc., New York. (1999). 375 pages. £58.50.

Contents:

Foreword. Preface. List of figures. 1. Introduction. 2. Fuzzy logic and neural networks: Models, integration, and soft computing. 3. Pattern classification. 4. Other applications of fuzzy MLP. 5. Self-organization, pixel classification, and object extraction. 6. Feature evaluation. 7. Rule generation and inferencing. 8. Using knowledge-based networks and fuzzy sets. 9. Rough-fuzzy knowledge-based networks. Appendices. A. Genetic algorithms: Basic principles, Features. B. Derivation of the expression for $\varepsilon(E)$. Index.

The Unknowable. By Gregory J. Chaitin. Springer, Singapore. (1999). 122 pages. \$32.95, DM 59.00, öS 431.00, sFr 54.00, GBP 22.50.

Contents:

Preface. 1. A hundred years of controversy regarding the foundations of mathematics. 2. LISP: A formalism for expressing mathematical algorithms. 3. Gödel's proof of his incompleteness theorem. 4. Turing's proof of the unsolvability of the halting problem. 5. My proof that you can't show that a LISP expression is elegant. 6. Information & randomness: A survey of algorithmic information theory. 7. Mathematics in the Third Millennium? Bibliography.

Information, Uncertainty and Fusion. Edited by Bernadette Bouchon-Meunier, Ronald R. Yager and Lotfi A. Zadeh. Kluwer Academic, Boston. (2000). 460 pages. \$160, NLG 375, GBP 110.

Contents:

Preface. I. Information. Revision by translation (D. Gabbay, O. Rodrigues and A. Russo). Ambiguous implications in knowledge-based systems described by entity-characteristic tables (S. Guiasu). Functional dependencies and the design of relational databases involving imprecise data (P. Bosc and L. Liétard). A query construct for paraconsistent databases (R. Bagai). Fuzzy classificatory object recognition for crisis detection (II. Larsen and R.R. Yager). An approach to using degrees of belief in BDI agents (S. Parsons and P. Giorgini). Representation of comonotonically additive functional by Choquet integral (Y. Narukawa, T. Murofushi and M. Sugeno). On lower and upper approximation of fuzzy measures by k -order additive measures (M. Grabisch). Generated fuzzy quantifiers and their orderings (E.E. Kerre, M. Mareš and R. Mesiar). On neurofuzzy and fuzzy decision tree approaches (C. Olaru and L. Wehenkel). A fuzzy extension to a temporal parsimonious covering theory (S. Sandri and J. Wainer). II. Uncertainty. Probabilities of future decisions (D. Nilsson and F.V. Jensen). Representations issues for risk scenarios (S. Langley). Zero probabilities in stochastic independence (G. Coletti and R. Scozzafava). Computing the probability of formulas representing events in product spaces (P.A. Monney and B. Anrig). Uncertainty handling for distributed database integration and knowledge discovery (S.I. McClean and B.W. Scotney). A rule-based language for probabilistic reasoning (S.K.M. Wong). Deriving possibility distributions from data sets using confidence intervals of probabilities (L.M. de Campos and J.F. Huete). Fuzzy random variables-based modeling with GA-P algorithms (L. Sánchez and I. Couso). A seasonal streamflow forecasting model using neurofuzzy network (R. Ballini, M. Figueiredo, S. Soares, M. Andrade and F. Gomide). Allowing imprecision in belief representation using fuzzy-valued belief structures (T. Denoeux). A transformational approach to fuzzy propositions (F. Fernández and J. Gutiérrez). Four-valued logics for reasoning with uncertainty in prioritized data (O. Arieli). III. Fusion. A mathematical model for fuzzy connectives and its application to operators behavioural study (E. Trillas, A. Pradera and S. Cubillo). Invariance properties of OWA operators (S. Ovchinnikov). Aggregation operators as similarity relations (G. Beliakov). Semantic meaning of fuzzy control models and heterogeneous aggregation operators (B. Shukhat). Maxitive fuzzy preference structures (B. De Baets and J. Fodor). Directed possibilistic graphs and possibilistic logic (S. Benferhat, D. Dubois, L. Garcia and H. Prade). A logic of supporters (C. Lafage, J. Lang and R. Sabbadin). Building argumentation systems on set constraint logic (R. Haenni and N. Lehmann). Genetic fuzzy c -means algorithm for automatic generation of fuzzy partitions (S. López, L. Magdalena and J. Velasco). Fast Dempster-Shafer clustering using a neural network structure (J. Schubert). Distribution of contradictive belief masses in combination of belief functions (M. Daniel). Relationships among ordinal relations on a finite set of events (A. Capotorti and B. Vantaggi). Index.

Behavioral Specifications of Businesses and Systems. Edited by Haim Kilov, Bernhard Rumpe and Ian Simmonds. Kluwer Academic, Boston. (1999). 315 pages. \$125, NLG 290, GBP 86.25.

Contents:

Preface. 1. Object-oriented transformation (Kenneth Baclawski, Scott DeLoach, Mieczyslaw Kokar and Jeffrey Smith). 2. Being served: The purposes, strengths and limitations of formal service modelling (Bernard Cohen). 3. What vs. how of visual modeling: The arrow-diagram logic of visual modeling (Zinovy Diskin, Boris Kadish and Frank Piessens). 4. Meta-modelling semantics of UML (Andy Evans, Robert France, Kevin Lano and Bernhard Rumpe). 5. Combining JSD and Cleanroom for object-oriented scenario specification (Marc Frappier and Richard St-Denis). 6. What is behind UML-RT (Radu Grosu, Manfred Broy, Bran Selic and Gheorghe Stefanescu). 7. Applying ISO RM-ODP in the specification of CORBA® interfaces and semantics to general ledger systems (Jack Hassall and John Eaton). 8. Component-based algebraic specifications (Shusaku Iida, Kokichi Futatsugi and Razvan Diaconescu). 9. A meta-model semantics for structural constraints in UML (Stuart Kent, Stephen Gaito and Niall Ross). 10. On the structure of convincing specifications (Haim Kilov and Allan Ash). 11. Formalising

the UML in structured temporal theories (Kevin Lano and Juan Bicarregui). 12. JML: A notation for detailed design (Gary Leavens, Albert Baker and Clyde Ruby). 13. Agents: Between order and chaos (James Odell). 14. UML, the future standard software architecture description language? (Andy Schürr and Andreas Winter). 15. Using information modeling to define business requirements (Mark Shafer). 16. A layered context perspective on enterprises and information systems (Ian Simmonds and David Ing). 17. 30 things that go wrong in object-oriented modelling with UML 1.3 (Anthony Simons and Ian Graham). 18. Formalizing association semantics in terminologies (Harold Solbrig). 19. On the specification of the business and economic foundations of electronic commerce (Angelo Thalassinidis and Ira Sack). 20. Embedding object-oriented design in system engineering (Roel Wieringa). Index.

Parallel Numerical Computation with Applications. Edited by Tianruo Yang. Kluwer Academic, Boston. (1999). 233 pages. \$135, NLG 315, GBP 94.

Contents:

Preface. I. Parallel numerical algorithms. 1. PSPASES: Scalable parallel direct solver for sparse systems (Mahesh V. Joshi, George Karypis, Vipin Kumar, Anshul Gupta and Fred Gustavson). 2. Parallel factorization algorithms (Jaeyoung Choi). 3. Parallel solution of stiff ODE (Thomas Rauber and Gudula Rünger). 4. Parallel space decomposition (Andreas Frommer and Rosemary A. Renaut). 5. Parallel biconjugate gradient method (H. Martin Bücker and Manfred Sauren). 6. Jacobi ordering for multiple-port hypercubes (Dolors Royo, Miguel Valero-García and Antonio González). 7. Performance analysis of IQMR method (Tianruo Yang and Hai-Xiang Lin). II. Parallel numerical applications. 8. Parallel algorithm for 3D elasticity problems (Krassimir Georgiev). 9. Distributed control parallelism (Denitza T. Krasteva, Layne T. Watson, Chuck A. Baker, Bernard Grossman, William H. Mason and Raphael T. Haftka). 10. Semiconductor device and process simulation (Olaf Schenk, Klaus Gärtner, Bernhard Schmithüsen and Wolfgang Fichtner). 11. Parallel overlapping meshes (Jacek Rokicki, Dimitris Drikakis, Jerzy Majewski and Jerzy Zóltak). 12. The optimized order 2 method (Caroline Japhet, Frédéric Nataf and Francois Rogier). 13. A parallel algorithm for a lubrication problem (M. Arenaz, R. Doallo, J. Touriño and C. Vázquez). 14. Parallel computing of cavity flow (Hui Wan, Shanwu Wang, Yanxiang Wang, Xiyun Lu and Lixian Zhuang). 15. Electromagnetic scattering with boundary integral method (Thierry Jacques, Laurent Nicolas and Christian Vollaire). Index.

Harmonic Analysis and Partial Differential Equations: Essays in Honor of Alberto P. Calderón. Edited by Michael Christ, Carlos E. Kenig and Cora Sadosky. The University of Chicago Press, Chicago. (1999). 355 pages. \$50, £35.

Contents:

Preface. Introduction (Michael Christ, Carlos E. Kenig and Cora Sadosky). 1. Calderón and Zygmund's theory of singular integrals (Elias M. Stein). 2. Transference principles in ergodic theory (Alexandra Bellow). 3. A weak-type inequality for convolution products (Alexandra Bellow and Alberto P. Calderón). 4. Transference couples and weighted maximal estimates (Earl Berkson, Maciej Paluszynski and Guido Weiss). 5. Periodic solutions and nonlinear wave equations (Jean Bourgain). 6. Some extremal problems in martingale theory and harmonic analysis (Donald L. Burkholder). 7. The Monge Ampere equation, allocation problems, and elliptic systems with affine invariance (Luis A. Caffarelli). 8. On a fourth-order partial differential equation in conformal geometry (Sun-Yung A. Chang). 9. Riesz transforms, commutators, and stochastic integrals (A.B. Cruzeiro and P. Malliavin). 10. An application of a formula of Alberto Calderón to speaker identification (Ingrid Daubechies and Stéphane Maes). 11. Analytic capacity, Cauchy kernel, Menger curvature, and rectifiability (Guy David). 12. Symplectic subunit balls and algebraic functions (Charles Fefferman). 13. Multiparameter Calderón-Zygmund theory (Robert A. Fefferman). 14. Nodal sets of sums of eigenfunctions (David Jerison and Gilles Lebeau). 15. Large-time behavior and self-similar solutions of some semilinear diffusion equations (Yves Meyer). 16. Estimates for elliptic equations in unbounded domains and applications to symmetry and monotonicity (Louis Nirenberg). 17. Asymptotic expansions for Atiyah-Patodi-Singer problems (Robert Seeley). 18. Analysis on metric spaces (Stephen Semmes). 19. Developments in inverse problems since Calderón's foundational paper (Gunther Uhlmann). Remarks addressed to the conference (Alberto P. Calderón). Contributors. Index.

Secure Information Networks: Communications and Multimedia Security. Edited by Bart Preneel. Kluwer Academic, Boston. (1999). 322 pages. \$165, NLG 350, GBP 107.25.

Contents:

Preface. Conference committees. I. Network security: ATM and ISDN. Security on ATM networks (Stelios Karanastasis and Ahmad Patel). ISDN security services (Herbert Leitold, Karl Christian Posch and Reinhard Posch). An alternative access control architecture for IP over ATM networks (Oliver Paul and Maryline Laurent). II. Applied cryptology I. Verifiable democracy (Yvo Desmedt and Brian King). Efficient oblivious proofs of correct exponentiation (Markus Jakobsson and Claus Peter Schnorr). III. Entity authentication and key agreement protocols. Weaknesses in EIIA authentication and key distribution protocol (Martin Stanek and Daniel Olejár). Formal design of efficient authentication and key-agreement protocols (Gunnar Jacobson). IV. Applications. On authentication, digital signatures and signature laws (Per Kaijser). Watermarking and secure distribution for encrypted video (T. Amornraksa, D.R.B. Burgess and P. Sweeney). Implementing a secure log file download manager for the Java Card (Constantinos Markantonakis and Simeon Xenitellis). V. Network security: IP. Protecting key exchange

and management protocols against resource clogging attacks (Rolf Oppliger). Secure distributed virtual conferencing (W.A. Adamson, C.J. Antonelli, K.W. Coffman, P. McDaniel and J. Rees). PIM-SM security: Interdomain issues and solutions (Thomas Hardjono and Brad Cain). VI. Protocols for mobile applications. Attacks against the WAP WTLS protocol (Markku-Juhani Saarinen). A new authentication protocol for portable communication systems (Sheng-bo Xu, Cees Jansen and Henk van Tilborg). Token based authentication for handover security (Yi Cheng and Arne Norefors). VII. Applied cryptology II. How to securely broadcast a secret (Jörg Schwenk). Proofs of work and bread pudding protocols (Markus Jakobsson and Ari Juels). Attach on Liu/Farrell/Boyd arithmetic coding encryption scheme (Takeyuki Uehara and Reihaneh Safavi-Naini). VIII. Web security. Secure data-transfer for web-based applications (Wolfgang Platzer). Using SESAME to secure web based applications on an intranet (Paul Ashley, Mark Vandenwauver and Joris Claessens). Contributors. Keywords.

Learning on Silicon: Adaptive VLSI Neural Systems. Edited by Gert Cauwenberghs and Magdy A. Bayoumi. Kluwer Academic, Boston. (1999). 425 pages. \$145, NLG 260, GBP 95.

Contents:

Preface. Acknowledgements. 1. Learning on silicon: A survey (Gert Cauwenberghs). I. Adaptive sensory processing. 2. Adaptive circuits and synapses using pFET floating-gate devices (Paul Hasler, Bradley A. Minch, Jeff Dugger and Chris Diorio). 3. Silicon photoreceptors with controllable adaptive filtering properties (Shih-Chii Liu). 4. Analog VLSI system for active drag reduction (Vincent Koosh, Bhusan Gupta, Dave Babcock, Rodney Goodman, Fukang Jiang, Yu-Chong Tai, Steve Tung and Chih-Ming Ho). II. Neuromorphic learning. 5. Biologically-inspired learning in pulsed neural networks (Torsten Lehmann and Robin Woodburn). 6. Spike based normalizing Hebbian learning in an analog VLSI artificial neuron (Philipp Häfliger and Misha Mahowald). 7. Antidromic spikes drive Hebbian learning in an artificial dendritic tree (Wayne C. Westerman, David P.M. Northmore and John G. Elias). III. Learning architecture. 8. ART1 and ARTMAP VLSI circuit implementation (Teresa Serrano-Gotarrendona and Bernabé Linares-Barranco). 9. Circuits for on-chip learning in neuro-fuzzy controllers (Fernando Vidal-Verdú, Rafael Navas-González and Ángel Rodríguez-Vázquez). 10. Analog VLSI implementation of self-learning neural networks (Takashi Morie). 11. A 1.2 GFLOPS neural network processor for large-scale neural network accelerator systems (Yoshikazu Kondo, Shinji Komori and Kazuo Kyuma). IV. Learning dynamics. 12. Analog hardware implementation of continuous-time adaptive filter structures (John G. Harris, Jui-Kuo Juan and Jose C. Principe). 13. A chip for temporal learning with error forward propagation (Fathi M. Salam and Hwa-Joon Oh). 14. Analog VLSI on-chip learning neural network with learning rate adaptation (Gian Marco Bo, Daniele D. Caviglia, Hussein Chiblé and Maurizio Valle). V. Learning systems. 15. Learning on CNN universal machine chips (Ricardo Carmona, Angel Rodríguez-Vázquez, Rafael Domínguez-Castro, Servando Espejo and Tamás Roska). 16. Analog VLSI parallel stochastic optimization for adaptive optics (R. Timothy Edwards, Marc Cohen, Gert Cauwenberghs, Mikhail A. Vorontsov and Gary W. Carhart). 17. A nonlinear noise-shaping delta-sigma modulator with on-chip reinforcement learning (Gert Cauwenberghs). 18. A micropower adaptive linear transform vector quantiser (Richard J. Coggins, Raymond J.W. Wang and Marwan A. Jabri). Index.

Computer-Aided Design of User Interfaces II. Edited by Jean Vanderdonck and Angel Puerta. Kluwer Academic, Dordrecht. (1999). 355 pages. \$179, NLG 295, GBP 104.

Contents:

Preface—Introduction to computer-aided design of user interfaces (J. Vanderdonck and A. Puerta). Program committee members. I. Invited speakers. 1. Modeling for component based development in UML/catalysis (A.C. Wills). 2. Theory based design: From individual users and tasks to collaborative systems (P. Johnson). 3. Evaluating accessibility and usability of web pages (M. Cooper). II. Model-based user interface development environments. 4. Model-based design of user interfaces using Object-Z (A. Hussey and D. Carrington). 5. A method engineering framework for modeling and generating interactive applications (Ch. Martin). 6. GIPSE, a model-based system for CAD software (G. Patry and P. Girard). 7. Visto: A more declarative GUI framework (K. Aerts). 8. Beyond automatic generation-exploratory approach to UI design (S. Kovacevic). 9. Using application domain specific run-time systems and lightweight user interface models—A novel approach for CADUI (E. Nilsson). 10. XXL: A visual+textual environment for building graphical user interfaces (E. Lecolinet). III. Linking and deriving models. 11. Semi-automated linking of user interface design artifacts (S.S. Elnaffar and N. Graham). 12. The Teallach tool: Using models for flexible user interface design (P.J. Barclay, T. Griffiths, J. McKirdy, N.W. Paton, R. Cooper and J. Kennedy). 13. MDL: A language for binding user-interface models (R.E.K. Stirewalt). IV. Windows management. 14. Vanishing windows: An empirical study of adaptive window management (T. Miah and J.L. Alty). 15. Adaptive layout calculation in graphical user interfaces: A retrospective on the A²DL-Project (S. Stille and R. Ernst). 16. Semantic differences between user interface platforms relevance to design and re-design of user interface (M.B. Harning). V. Design frameworks and objects. 17. A framework for management of sophisticated user interface's variants in design process: A case study (P. Savolainen and H. Kontinen). 18. GRASYLA: Modelling case tool GUIs in metacases (V. Englebert and J.-L. Hainaut). 19. User defined objects are first class citizen (G. Texier and L. Guittet). VI. Supporting task-based design. 20. The visual task model design (M. Biere, B. Bomsdorf and G. Szwillus). 21. Computer-aided analysis of cooperative applications (G. Ballardín, C. Mancini and F. Paternó). 22. Methodological and tool support for a task-oriented development of interactive systems (A. Dittmar and P. Forbrig). 23. Modelling work: Workflow and task modelling (H. Trøetteberg). VII. Computer-aided design of user interfaces. 24. A generic framework based on ergonomics rules for computer aided design of user interface (Ch. Farenc and Ph. Palanque). 25. CMF: A coherent modelling

framework for task-based user interface design (B. Bomsdorf and G. Szwillus). 26. Towel: Real world mobility on the web (S. Harper, R. Stevens and C. Goble). 27. Tool-based support for user-designer collaboration in distributed user interface design and evaluation (J. Sarkkinen). VIII. Computer-aided evaluation of user interfaces. 28. An approach of computer-aided choice of UI evaluation criteria and methods (A. Nendjo Ella, Ch. Kolski, F. Wawak, C. Jacques and P. Yim). 29. Considering subjectivity in software evaluation—Application for teachware evaluations (O. Hù, Ph. Trigano and S. Crozat). 30. KALDI: A computer-aided usability engineering tool for supporting testing and analysis of human-computer interaction (G. Al-Qaimari and D. McRostie).

Any Time, Anywhere Computing: Mobile Computing Concepts and Technology. By Abdelsalam Helal, Bert Haskell, Jeffery L. Carter, Richard Brice, Darrell Woelk and Marek Rusinkiewicz. Kluwer Academic, Boston. (1999). 166 pages. \$95, NLG 225, GBP 65.75.

Contents:

Foreword. Preface. 1. Introduction to mobile computing. 2. Wireless telecommunication networks. 3. Portable information appliances. 4. Future information appliances. 5. Future wireless communication networks. 6. State of industry: Mobility support software. 7. Research in wireless and mobile computing. Appendix-A: Glossary of common abbreviations. Appendix-B: Wireless cellular systems. Appendix-C: Standards organizations. References. Index.

Industrializing Knowledge: University-Industry Linkages in Japan and the United States. Edited by Lewis M. Branscomb, Fumio Kodama and Richard Florida. The MIT Press, Cambridge, MA. (1999). 630 pages. \$45.

Contents:

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Intelligent Building Systems. By Albert Ting-pat So. Kluwer Academic, Boston. (1999). 175 pages. \$125, NLG 255, GBP 81.25.

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