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Contents:

Preface. List of figures 1. Introduction and preliminaries. 2. Geometry of convex inequalities. 3. Computation of analytic center. 4. Linear programming algorithms. 5. Worst-case analysis. 6. Average-case analysis. 7. Asymptotic analysis. 8. Convex optimization. 9. Nonconvex optimization. 10. Implementation issues. Bibliography. Index.

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Contents:

Preface. List of contributors. 1. Selected books in and around combinatorial optimization (F. Maffioli and S. Martello). 2. Hardness of approximation (V. Kann and A. Panconesi). 3. Polyhedral combinatorics (K. Aardal and R. Weismantel). 4. Branch-and-cut algorithms (A. Caprara and M. Fischetti). 5. Matroids and submodular functions (A. Frank). 6. Perfect, ideal and balanced matrices (M. Conforti, G. Cornuéjols, A. Kapoor and K. Vuskovic). 7. Advances in linear optimization (C. Roos and T. Terlaky). 8. Decomposition and column generation (F. Soumis). 9. Stochastic integer programming (L. Stougie and M.H. van der Vlerk). 10. Randomized algorithms (M. Goemans, D. Karger and J. Kleinberg). 11. Local search (E. Aarts and M. Verhoeven). 12. Sequencing and scheduling (J.A. Hoogeveen, J.K. Lenstra and S.L. Van de Velde). 13. The traveling salesman problem (M. Jünger, G. Reinelt and G. Rinaldi). 14. Vehicle routing (G. Laporte). 15. Max-cut problem (M. Laurent). 16. Location problems (M. Labbé and F.V. Louveaux). 17. Flows and paths (R.K. Ahuja). 18. Network design (A. Balakrishnan, T.L. Magnanti and P. Mirchandani). 19. Network conncectivity (S. Raghavan and T.L. Magnanti). 20. Linear assignment (M. Dell'Amico and S. Martello). 21. Quadratic and three-dimensional assignments (R.E. Burkard and E. Cela). 22. Cutting and packing (H. Dyckhoff, G. Scheithauer and J. Terno). 23. Set covering problem (S. Ceria, P. Nobili and A. Sassano). 24. Combinatorial topics in VLSI design (R.H. Möhring and D. Wagner). 25. Computational molecular biology (M. Vingron, H.-P. Lenhof and P. Mutzel). Author Index.

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Contents:

Preface. NIPS committees. Reviewers.

I. Cognitive science. Text-based information retrieval using exponentiated gradient descent (Ron Papka, James P. Callan and Andrew G. Barto). Why did TD-Gammon work? (Jordan B. Pollack and Alan D. Blair). Neural models for part-whole hierarchies (Maximilian Riesenhuber and Peter Dayan).

II. Neuroscience. Temporal low-order statistics of natural sounds (H. Attias and C.E. Schreiner). Reconstructing stimulus velocity from neuronal responses in area MT (Wyeth Bair, James R. Cavanaugh and J. Anthony Movshon). 3D object recognition: A model of view-tuned neurons (Emanuela Bricolo, Tomaso Poggio and Nikos Logothetis). A hierarchical model of visual rivalry (Peter Dayan). Neural network models of chemotaxis in the nematode *Caenorhabditis Elegans* (Thomas C. Ferrée, Ben A. Marcotte and Shawn R. Lockery). Extraction of temporal features in the electrosensory system of weakly electric fish (Fabrizio Gabbiani, Walter Metzner, Ralf Wessel and Christof Koch). A neural model of visual contour integration (Zhaoping Li). Learning exact patterns of quasi-synchronization among spiking neurons from data on multi-unit recordings (Laura Martignon, Kathryn Laskey, Gustavo Deco and Eilon Vaadia). Complex-cell responses derived from center-surround inputs: The surprising power of intradendritic computation (Bartlett W. Mel, Daniel L. Ruderman and Kevin A. Archie). Orientation contrast sensitivity from long-range interactions in visual cortex (Klaus R. Pawelzik, Udo Ernst, Fred Wolf and Theo Geisel). Statistically efficient estimations using cortical laterla connections (Alexandre Pouget and Kechen Zhang). An architectural mechanism for direction-tuned cortical simple cells: The role of mutual inhibition (Silvio P. Sabatini, Fabio Solari and Giacomo M. Bisio). Cholinergic modulation preserves spike timing under physiologically realistic fluctuating input (Akaysha C. Tang, Andreas M. Bartels and Terrence J. Sejnowski). A model of recurrent interactions in primary visual cortex (Emanuel Todorov, Athanassios Siapas and David Somers).

III. Theory. Neural learning in structured parameter spaces—Natural Riemannian gradient (Shun-ichi Amari). For valid generalization, the size of the weights is more important than the size of the network (Peter L. Bartlett). Dynamics of training (Siegfried Bös and Manfred Opper). Multilayer neural networks: One or two hidden layers? (G. Brightwell, C. Kenyon and Hélène Paugam-Moisy). Support vector regression machines (Harris Drucker, Chris J.C. Burges, Linda Kaufman, Alex Smola and Vladimir Vapnik). Size of multilayer networks for exact learning: Analytic approach (André Elisseef and Hélène Paugam-Moisy). The effect of correlated input data on the dynamics of learning (Søren Haljær and Ole Winther). Practical confidence and prediction intervals (Tom Heskes). Statistical mechanics of the mixture of experts (Kukjin Kang and Jong-Hoon Oh). MLP can provably generalize much better than VC-bounds indicate (A. Kowalczyk and H. Ferrá). Radial basis function networks and complexity regularization in function learning (Adam Krzyżak and Tamás Linder). An apobayesian relative of Winnow (Nick Littlestone and Chris Mesterharm). Noisy spiking neurons with temporal coding have more computational power than sigmoidal neurons (Wolfgang Maass). On the effect of analog noise in discrete-time analog computations (Wolfgang Maass and Pekka Orponen). A mean field algorithm for Bayes learning in large feed-forward neural networks (Manfred Opper and Ole Winther). Removing noise in on-line search using adaptive