

## Список литературы

- [1] D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds., *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002*, IEEE Press, 2002.
- [2] A. Meade, D. Corne and R. Sibly, *Discovering patterns in microsatellite flanks with evolutionary computation by evolving discriminatory dna motifs*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1–6, IEEE Press, 2002.
- [3] S. J. Anastasoff, *The presence of old alus in gc-rich regions of the human genome - a genetic algorithm perspective*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 7–12, IEEE Press, 2002.
- [4] D. Ashlock, A. Wittrock and T.-J. Wen, *Training finite state machines to improve pcr primer design*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 13–18, IEEE Press, 2002.
- [5] N. Matsumaru, S. Colombano and K.-P. Zauner, *Scouting enzyme behavior*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 19–24, IEEE Press, 2002.
- [6] G. G. Yen and H. Lu, *Hierarchical rank density genetic algorithm for radial-basis function neural network design*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 25–30, IEEE Press, 2002.
- [7] K. C. Tan, K. Sengupta, T. H. Lee and R. Sathikannan, *Autonomous registration of disparate spatial data via an evolutionary algorithm toolbox*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 31–36, IEEE Press, 2002.
- [8] R. Thomson and T. Arslan, *An evolutionary algorithm for the multi-objective optimisation of vlsi primitive operator filters*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 37–42, IEEE Press, 2002.
- [9] J. Gan and K. Warwick, *Modelling niches of arbitrary shape in genetic algorithms using niche linkage in the dynamic niche clustering framework*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 43–48, IEEE Press, 2002.
- [10] J. Hu and E. D. Goodman, *The hierarchical fair competition (hfc) model for parallel evolutionary algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 49–54, IEEE Press, 2002.
- [11] S. Droste, *Analysis of the (1+1) ea for a dynamically changing onemax-variant*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 55–60, IEEE Press, 2002.
- [12] K. Deb, D. Joshi and A. Anand, *Real-coded evolutionary algorithms with parent-centric recombination*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 61–66, IEEE Press, 2002.

- [13] V. Ciesielski and D. Mawhinney, *Prevention of early convergence in genetic programming by replacement of similar programs*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 67–72, IEEE Press, 2002.
- [14] F. Tanaka, M. Nakatsugawa, M. Yamamoto, T. Shiba and A. Ohuchi, *Towards a general-purpose sequence design system in dna computing*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 73–78, IEEE Press, 2002.
- [15] S.-Y. Shin, D.-M. Kim, I.-H. Lee and B.-T. Zhang, *Evolutionary sequence generation for reliable dna computing*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 79–84, IEEE Press, 2002.
- [16] M. Yamamoto, A. Kameda, N. Matsuura, T. Shiba and A. Ohuchi, *Simulation analysis of hybridization process for dna computing with concentration control*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 85–90, IEEE Press, 2002.
- [17] M. Nakatsugawa, M. Yamamoto, T. Shiba and A. Ohuchi, *Design of a pcr protocol for improving reliability of pcr in dna computing*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 91–96, IEEE Press, 2002.
- [18] L. Costa and P. Oliveira, *An evolution strategy for multiobjective optimization*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 97–102, IEEE Press, 2002.
- [19] D. J. Caswell and G. B. Lamont, *Wire-antenna geometry design with multiobjective genetic algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 103–108, IEEE Press, 2002.
- [20] K. Socha and M. Kisiel-Dorohinicki, *Agent-based evolutionary multiobjective optimisation*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 109–114, IEEE Press, 2002.
- [21] W. Pullan, *Optimising multiple aspects of network survivability*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 115–120, IEEE Press, 2002.
- [22] R. Thomsen, G. B. Fogel and T. Krink, *A clustal alignment improver using evolutionary algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 121–126, IEEE Press, 2002.
- [23] R. O. Day, J. B. Zydallis, G. Lamont and R. Pachter, *Analysis of fine granularity and building block sizes in the parallel fast messy ga*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 127–132, IEEE Press, 2002.
- [24] J. J. Rowland and J. Taylor, *Adaptive denoising in spectral analysis by genetic programming*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 133–138, IEEE Press, 2002.

- [25] L. G. Volkert, *Levels of adaptation: Insights into survival in dynamic environments*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 139–144, IEEE Press, 2002.
- [26] C. N. Bendtsen and T. Krink, *Dynamic memory model for non-stationary optimization*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 145–150, IEEE Press, 2002.
- [27] S. D. Mueller, N. N. Schraudolph and P. D. Koumoutsakos, *Step size adaptation in evolution strategies using reinforcement learning*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 151–156, IEEE Press, 2002.
- [28] J. Wiles and B. Tonkes, *Visualisation of hierarchical cost surfaces for evolutionary computing*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 157–162, IEEE Press, 2002.
- [29] S.-I. Lee and S.-B. Cho, *Measuring evolvability in evolutionary robotics*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 163–168, IEEE Press, 2002.
- [30] K. C. Tsui and J. Liu, *Evolutionary diffusion optimization, part i: Description of the algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 169–174, IEEE Press, 2002.
- [31] A. Madureira, C. Ramos and S. do Carmo Silva, *A coordination mechanism for real world scheduling problems using genetic algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 175–180, IEEE Press, 2002.
- [32] J. Kacprzyk and G. Szkatula, *An integer programming approach to inductive learning using genetic algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 181–186, IEEE Press, 2002.
- [33] W. H. Land, Jr., M. Bryden, D. W. McKee, J. Y. Lo and F. R. Anderson, *Performance tradeoff between evolutionary computation (ec)/adaptive boosting (ab) hybrid and support vector machine breast cancer classification paradigms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 187–192, IEEE Press, 2002.
- [34] M. Watts, L. Major and W. Tate, *Evolutionary optimisation of mlp for modeling protein synthesis termination signal efficiency*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 193–198, IEEE Press, 2002.
- [35] D. Landavazo and G. B. Fogel, *Evolved neural networks for quantitative structure-activity relationships of anti-hiv compounds*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 199–204, IEEE Press, 2002.
- [36] N. Geard, J. Wiles, J. Hallinan, B. Tonkes and B. Skellett, *A comparison of neutral landscapes - nk, nkp and nkq*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 205–210, IEEE Press, 2002.

- [37] N. Geard and J. Wiles, *Diversity maintenance on neutral landscapes - an argument for recombination*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 211–213, IEEE Press, 2002.
- [38] A. H. Wright, J. E. Rowe and J. R. Neil, *Analysis of the simple genetic algorithm on the single-peak and double-peak landscapes*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 214–219, IEEE Press, 2002.
- [39] H.-K. Jeong and S.-Y. Oh, *Evolutionary programming integrating 3-generation based mutation and local competition based selection*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 220–224, IEEE Press, 2002.
- [40] F. Lindblad, P. Nordin and K. Wolff, *Evolving 3D model interpretation of images using graphics hardware*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 225–230, IEEE Press, 2002.
- [41] I. De Falco, A. D. Cioppa and E. Tarantino, *Unsupervised spectral pattern recognition for multispectral images by means of a genetic programming approach*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 231–236, IEEE Press, 2002.
- [42] T. Yuizono, Y. Wang, K. Satoh and S. Nakayama, *Study on individual recognition for ear images by using genetic local search*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 237–242, IEEE Press, 2002.
- [43] A. Song, V. Ciesielski and H. Williams, *Texture classifiers generated by genetic programming*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 243–248, IEEE Press, 2002.
- [44] M. Clergue and P. Collard, *Ga-hard functions built by combination of trap functions*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 249–254, IEEE Press, 2002.
- [45] T. Mahnig and H. Muehlenbein, *A comparison of stochastic local search and population based search*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 255–260, IEEE Press, 2002.
- [46] N. G. Kim, J. M. Won, J. S. Lee and S. W. Kim, *Local convergence rate of evolutionary algorithm with combined mutation operator*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 261–266, IEEE Press, 2002.
- [47] M. Iwashita and H. Iba, *Island model gp with immigrants aging and depth-dependent crossover*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 267–272, IEEE Press, 2002.
- [48] J. M. Daida, *Limits to expression in genetic programming: Lattice-aggregate modeling*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 273–278, IEEE Press, 2002.

- [49] T. P. Runarsson and X. Yao, *Continuous selection and self-adaptive evolution strategies*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 279–284, IEEE Press, 2002.
- [50] M. Yasunaga, K. Ushiyama, H. Fujiwara, I. Yoshihara, J. H. Kim and N. Aibe, *An evolutionary kernel-based reasoning system using reconfigurable vlsis: Its hardware prototyping and application to the splicing boundary problem*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 285–290, IEEE Press, 2002.
- [51] S. Ando, H. Iba and E. Sakamoto, *Modeling genetic network by hybrid gp*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 291–296, IEEE Press, 2002.
- [52] J. Liu and H. Iba, *Selecting informative genes using a multiobjective evolutionary algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 297–302, IEEE Press, 2002.
- [53] I. Ono, H. Fujiki, M. Ootsuka, N. Nakashima, N. Ono and S. Tate, *Global optimization of protein 3-dimensional structures in nmr by a genetic algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 303–308, IEEE Press, 2002.
- [54] H. D. Nguyen, I. Yoshihara, K. Yamamori and M. Yasunaga, *A parallel hybrid genetic algorithm for multiple protein sequence alignment*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 309–314, IEEE Press, 2002.
- [55] S. Chiba and K. Sugawara, *Estimation of protein function with an evolutionary dictionary*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 315–320, IEEE Press, 2002.
- [56] S. Mabu, K. Hirasawa, J. Hu and J. Murata, *Online learning of genetic network programming (gnp)*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 321–326, IEEE Press, 2002.
- [57] J. A. Etzel, *"marigolds": an evolutionary algorithm simulation*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 327–332, IEEE Press, 2002.
- [58] C. M. Jonker, A. P. G. de Kock, J. Meijer and B. J. Vermeulen, *Deliberate evolution agents: Comparing reproduction strategies*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 333–338, IEEE Press, 2002.
- [59] F.-S. Hsieh, *Design of evolvable manufacturing processes*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 339–344, IEEE Press, 2002.
- [60] C. Cambier, M. Piron and A. Cardon, *Self-adaptive systems using a massive multi-agent system*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 345–350, IEEE Press, 2002.

- [61] A. Al-Yamani, S. M. Sait and H. R. Barada, *Hpts: Heterogeneous parallel tabu search for vlsi placement*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 351–355, IEEE Press, 2002.
- [62] K. G. Khoo and P. N. Suganthan, *Objective function decomposition within genetic algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 356–359, IEEE Press, 2002.
- [63] Y. Sano and H. Kita, *Optimization of noisy fitness functions by means of genetic algorithms using history of search with test of estimation*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 360–365, IEEE Press, 2002.
- [64] V. Cutello, E. Mastriani and F. Pappalardo, *An evolutionary algorithm for the t-constrained variation of minimum hitting set problem*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 366–371, IEEE Press, 2002.
- [65] S. M. Sait, M. R. Minhas and J. A. Khan, *Performance and low power driven vlsi standard cell placement using tabu search*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 372–377, IEEE Press, 2002.
- [66] S.-K. Oh, C.-Y. Lee and J.-J. Lee, *A new distributed evolutionary algorithm for optimization in nonstationary environments*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 378–383, IEEE Press, 2002.
- [67] Y.-C. Liang, S. Kulturel-Konak and A. E. Smith, *Meta heuristics for the orienteering problem*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 384–389, IEEE Press, 2002.
- [68] K. Rasheed, X. Ni and S. Vattam, *Comparison of methods for developing dynamic reduced models for design optimization*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 390–395, IEEE Press, 2002.
- [69] B. Greer, H. Hakonen, R. Lahdelma and R. Miiikkulainen, *Numerical optimization with neuroevolution*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 396–401, IEEE Press, 2002.
- [70] A. Cincotti, V. Cutello and M. Pavone, *Graph partitioning with genetic algorithms using odpx*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 402–406, IEEE Press, 2002.
- [71] K. J. Kim and S.-B. Cho, *Evolving speciated checkers players with crowding algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 407–412, IEEE Press, 2002.
- [72] D. Sofge, K. De Jong and A. Schultz, *A blended population approach to cooperative coevolution for decomposition of complex problems*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 413–418, IEEE Press, 2002.

- [73] T. Ray, *Constrained robust optimal design using a multiobjective evolutionary algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 419–424, IEEE Press, 2002.
- [74] R. Kumar, P. P. Parida and M. Gupta, *Topological design of communication networks using multiobjective genetic optimization*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 425–430, IEEE Press, 2002.
- [75] A. Bahuman, K. Rasheed and B. Bishop, *An evolutionary approach for vlsi standard cell design*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 431–436, IEEE Press, 2002.
- [76] K. sung Hwang and S. bae Cho, *Evolving diverse hardware using speciated genetic algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 437–442, IEEE Press, 2002.
- [77] C.-C. Hsu, W.-Y. Wang and C.-Y. Yu, *Genetic algorithms-derived digital integrators and their applications in discretization of continuous systems*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 443–448, IEEE Press, 2002.
- [78] C. K. Ho, Y. P. Singh and S. W. Lee, *Enhancement of a genetic algorithm for optical orthogonal code design using simulated annealing*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 449–453, IEEE Press, 2002.
- [79] H. de Garis, *Evolvability limits : A case study concerning the modular evolvable capacities (mecs) of a new neural net model for a second generation brain building machine bm2*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 454–459, IEEE Press, 2002.
- [80] J.-H. Lee and S.-B. Cho, *Analysis of direct manipulation in interactive evolutionary computation on fitness landscape*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 460–465, IEEE Press, 2002.
- [81] R. R. Cazangi and M. Figueiredo, *Simultaneous emergence of conflicting basic behaviors and their coordination in an evolutionary autonomous navigation system*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 466–471, IEEE Press, 2002.
- [82] Y. Takenaka and A. Hashimoto, *Dna computing by competitive hybridization for maximum satisfiability problem*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 472–476, IEEE Press, 2002.
- [83] W. Bin, Z. Yi, L. Shaohui and S. Zhongzhi, *Csim: A document clustering algorithm based on swarm intelligence*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 477–482, IEEE Press, 2002.
- [84] D. H. Kim, W. pyo Hong and J. I. Park, *Auto-tuning of reference based pid controller using immune algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 483–488, IEEE Press, 2002.

- [85] B. Al-kazemi and C. K. Mohan, *Multi-phase generalization of the particle swarm optimization algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 489–494, IEEE Press, 2002.
- [86] A. Sutcliffe, W.-C. Chang and R. Neville, *Optimizing system requirements with evolutionary computation*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 495–499, IEEE Press, 2002.
- [87] C. Wang, Y. C. Soh, H. Wang and H. Wang, *A hierarchical genetic algorithm for path planning in a static environment with obstacles*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 500–505, IEEE Press, 2002.
- [88] C.-F. Tsai, C.-W. Tsai and C.-P. Chen, *A novel multiple-searching genetic algorithm for multimedia multicast routing*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 506–511, IEEE Press, 2002.
- [89] C. Wen and R. C. Eberhart, *Genetic algorithm for logistics scheduling problem*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 512–516, IEEE Press, 2002.
- [90] D. Dasgupta and A. Stoliartchouk, *Evolving pc system hardware configurations*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 517–522, IEEE Press, 2002.
- [91] I. Watanabe, K. Okada, K. ichi Tokoro and S. Matsui, *Adaptive multiagent model of electric power market with congestion management*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 523–528, IEEE Press, 2002.
- [92] A. Moroni, F. Von Zuben, J. Manzolli and A. Mammana, *Capturing human judgment to simulate objective function*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 529–534, IEEE Press, 2002.
- [93] J. C. Hernandez, P. Isasi and A. Ribagorda, *Easing collision finding in cryptographic primitives with genetic algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 535–539, IEEE Press, 2002.
- [94] B. Kimiaghalam, A. Homaifar, M. Bikdash and B. Sayyarodsari, *Genetic algorithm based gain scheduling*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 540–545, IEEE Press, 2002.
- [95] Y. Tsujimura, M. Gen and A. Syarif, *Solving a nonlinear side constrained transportation problem by using spanning tree-based genetic algorithm with fuzzy logic controller*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 546–551, IEEE Press, 2002.
- [96] G. Dozier, *A comparison of adaptive virtual constraint identification strategies for recurrent dynamic constraint satisfaction*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 552–557, IEEE Press, 2002.



- [97] Y. Li and L. Kang, *Analysis of optimal trajectory on evolutionary algorithm and some control strategies*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 558–563, IEEE Press, 2002.
- [98] E. Eberbach, *On expressiveness of evolutionary computation: Is ec algorithmic?*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 564–569, IEEE Press, 2002.
- [99] K. Willadsen and J. Wiles, *All binary representations are equal: but some are more equal than others*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 570–575, IEEE Press, 2002.
- [100] P. Popela, J. Roupec, P. Osmera and R. Matousek, *The formal stochastic framework for comparison of genetic algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 576–581, IEEE Press, 2002.
- [101] A. E. Eiben and M. Jelasity, *A critical note on experimental research methodology in ec*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 582–587, IEEE Press, 2002.
- [102] M. Coletti, *A preliminary study of learnable evolution methodology implemented with c4. 5*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 588–593, IEEE Press, 2002.
- [103] S.-Y. Ho, C.-C. Liu, S. Liu and J.-W. Jou, *Design of an optimal nearest neighbor classifier using an intelligent genetic algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 594–599, IEEE Press, 2002.
- [104] J. Watson and J. Wiles, *The rise and fall of learning: A neural network model of the genetic assimilation of acquired traits*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 600–605, IEEE Press, 2002.
- [105] M. Watts and N. Kasabov, *Evolutionary optimisation of evolving connectionist systems*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 606–610, IEEE Press, 2002.
- [106] M. A. Guinea, G. Gutierrez, I. Galvan, A. Sanchis and J. M. Molina, *Generative capacities of grammars codification for evolution of nn architectures*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 611–616, IEEE Press, 2002.
- [107] P. K. Kim, P. Vadakkepat, T.-H. Lee and X. Peng, *Evolution of control systems for mobile robots*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 617–622, IEEE Press, 2002.
- [108] A. v. E. Conradie, R. Mikkulainen and C. Aldrich, *Intelligent process control utilising symbiotic memetic neuro-evolution*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 623–628, IEEE Press, 2002.

- [109] S. E. Eklund, *A massively parallel GP engine in VLSI*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 629–633, IEEE Press, 2002.
- [110] S. Y. Chen and Y. F. Li, *Optimum viewpoint planning for model-based robot vision*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 634–639, IEEE Press, 2002.
- [111] K. MORI, S. Nishi, T. Fuchida and S. Murashima, *Two dimensional resolution improvement of frame images by genetic algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 640–645, IEEE Press, 2002.
- [112] A. Acan, *Reciprocal translocation with adaptive segment length*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 646–651, IEEE Press, 2002.
- [113] Y. Liu and X. Yao, *How to control search step size in fast evolutionary programming*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 652–656, IEEE Press, 2002.
- [114] A. Dukkipati and M. N. Murty, *Selection by parts: ‘selection in two episodes’ in evolutionary algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 657–662, IEEE Press, 2002.
- [115] T. Murata, H. Nozawa, Y. Tsujimura, M. Gen and H. Ishibuchi, *Effect of local search on the performance of cellular multi-objective genetic algorithms for designing fuzzy rule-based classification systems*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 663–668, IEEE Press, 2002.
- [116] V. Hafner and R. Salomon, *Evolving neural controllers for visual navigation*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 669–674, IEEE Press, 2002.
- [117] D. H. Kim, *Tuning of 2-dof pid controller by immune algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 675–680, IEEE Press, 2002.
- [118] J.-W. Kim, S. W. Kim, P. Park and T. J. Park, *On the similarities between binary-coded ga and real-coded ga in wide search space*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 681–686, IEEE Press, 2002.
- [119] M. A. Janssen and D. W. Stow, *An application of immunocomputing to the evolution of rules for ecosystem management*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 687–692, IEEE Press, 2002.
- [120] F. Nino and O. Beltran, *A change detection software agent based on immune mixed selection*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 693–698, IEEE Press, 2002.
- [121] L. N. de Castro and J. Timmis, *An artificial immune network for multimodal function optimization*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 699–704, IEEE Press, 2002.

- [122] F. Gonzalez, D. Dasgupta and R. Kozma, *Combining negative selection and classification techniques for anomaly detection*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 705–710, IEEE Press, 2002.
- [123] J. Knowles and D. Corne, *On metrics for comparing non-dominated sets*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 711–716, IEEE Press, 2002.
- [124] C. Valenzuela, *A simple evolutionary algorithm for multi-objective optimization (seamo)*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 717–722, IEEE Press, 2002.
- [125] A. Farhang-Mehr and S. Azarm, *Diversity assessment of pareto-optimal solution sets: An entropy approach*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 723–728, IEEE Press, 2002.
- [126] T. Tassier, M. P. Everson and D. Ostrowski, *Agent-based models as a complement to economic theory: A durable goods example*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 729–734, IEEE Press, 2002.
- [127] M. P. Everson, C. G. E. Mangin, C. Stumpo, J. M. Schwartz and D. A. Ostrowski, *Evaluating strategies for foreign exchange risk reduction*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 735–740, IEEE Press, 2002.
- [128] D. Ostrowski, T. Tassier, M. P. Everson and R. G. Reynolds, *Using cultural algorithms to evolve strategies in agent-based models*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 741–746, IEEE Press, 2002.
- [129] G. Schleis and M. Rizki, *Learning from a random player using the reference neuron model*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 747–752, IEEE Press, 2002.
- [130] D. Crutchley and M. Zwolinski, *Using evolutionary and hybrid algorithms for dc operating point analysis of nonlinear circuits*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 753–758, IEEE Press, 2002.
- [131] C. L. Karr, T. A. Zeiler and R. Mehrotra, *Determining critical gust loads on aircraft structures using an evolutionary algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 759–764, IEEE Press, 2002.
- [132] R. Goto and Y. Sato, *Applicability of genetic algorithms to motion analysis of a moving object*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 765–770, IEEE Press, 2002.
- [133] Z. Stejic, E. M. Iyoda, Y. Takama and K. Hirota, *Image similarity computation using local similarity patterns generated by genetic algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 771–776, IEEE Press, 2002.

- [134] T. Beielstein and S. Markon, *Threshold selection, hypothesis tests, and doe methods*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 777–782, IEEE Press, 2002.
- [135] M. Hutter, *Fitness uniform selection to preserve genetic diversity*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 783–788, IEEE Press, 2002.
- [136] Y. Liang and K.-S. Leung, *Two-way mutation evolution strategies*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 789–794, IEEE Press, 2002.
- [137] H. Aguirre and K. Tanaka, *Parallel varying mutation genetic algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 795–800, IEEE Press, 2002.
- [138] L. Wenjian, C. Xianbin and W. Xufa, *An immune genetic algorithm based on immune regulation*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 801–806, IEEE Press, 2002.
- [139] S. Cayzer and U. Aickelin, *A recommender system based on the immune network*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 807–812, IEEE Press, 2002.
- [140] D. Bradley and A. Tyrrell, *A hardware immune system for benchmark state machine error detection*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 813–818, IEEE Press, 2002.
- [141] C. A. C. Coello and N. C. Cortes, *A parallel implementation of the artificial immune system to handle constraints in genetic algorithms: Preliminary results*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 819–824, IEEE Press, 2002.
- [142] K. Deb, L. Thiele, M. Laumanns and E. Zitzler, *Scalable multi-objective optimization test problems*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 825–830, IEEE Press, 2002.
- [143] H. A. Abbass, *The self-adaptive pareto differential evolution algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 831–836, IEEE Press, 2002.
- [144] Z.-Y. Zhu and K.-S. Leung, *Asynchronous self-adjustable island genetic algorithm for multi-objective optimization problems*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 837–842, IEEE Press, 2002.
- [145] S. Mostaghim, J. Teich and A. Tyagi, *Comparison of data structures for storing pareto-sets in moeas*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 843–848, IEEE Press, 2002.
- [146] J. Brewster, R. G. Reynolds and M. A. Brockmeyer, *Not in my backyard: A simulation of the effects of agent mobility on environmental poisoning*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 849–854, IEEE Press, 2002.

- [147] N. Rychtyckyj and R. G. Reynolds, *Knowledge base maintenance using cultural algorithms: Application to the dlms manufacturing process system at ford motor company*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 855–860, IEEE Press, 2002.
- [148] R. G. Reynolds and A. Lazar, *Simulating the evolution of the archaic states*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 861–866, IEEE Press, 2002.
- [149] S. Goodhall, R. G. Reynolds and R. Whallon, *Altruism, selfishness, and survival: An agent-based model of sharing behavior*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 867–871, IEEE Press, 2002.
- [150] Y.-C. Lin, K.-S. Hwang and F.-S. Wang, *Hybrid differential evolution with multiplier updating method for nonlinear constrained optimization problems*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 872–877, IEEE Press, 2002.
- [151] B. G. W. Craenen and A. E. Eiben, *An experimental comparison of sawing eas for a new class of random binary csps*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 878–883, IEEE Press, 2002.
- [152] S. B. Hamida and M. Schoenauer, *Aschea: New results using adaptive segregational constraint handling*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 884–889, IEEE Press, 2002.
- [153] X. Zou, L. Kang and Y. Li, *A dynamical evolutionary algorithm for constrained optimization problems*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 890–895, IEEE Press, 2002.
- [154] A. Kordon, G. Smits, E. Jordaan and E. Rightor, *Robust soft sensors based on integration of genetic programming, analytical neural networks, and support vector machines*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 896–901, IEEE Press, 2002.
- [155] A. B. J. G.-H. J. M. M. J. B. J. Portillo, *Ocr parameters tuning by means of evolution strategies for aircraft’s tail number recognition*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 902–907, IEEE Press, 2002.
- [156] K. C. Tan, T. H. Lee, J. Cai and Y. H. Chew, *Automating the drug scheduling of cancer chemotherapy via evolutionary computation*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 908–913, IEEE Press, 2002.
- [157] T. Hatanaka, K. Uosaki and M. Koga, *Evolutionary computation approach to wiener model identification*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 914–919, IEEE Press, 2002.
- [158] A. M. Costa, P. A. Vargas, F. J. Von Zuben and P. M. Franca, *Makespan minimization on parallel processors: An immune-based approach*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 920–925, IEEE Press, 2002.

- [159] A. B. Watkins and L. C. Boggess, *A resource limited artificial immune classifier*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 926–931, IEEE Press, 2002.
- [160] J. J. Cheh, *A heuristic approach to efficient production of detector sets for an artificial immune algorithm-based bankruptcy prediction system*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 932–937, IEEE Press, 2002.
- [161] A. Tarakanov and V. Skormin, *Pattern recognition by immunocomputing*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 938–943, IEEE Press, 2002.
- [162] H. Lu and G. Yen, *Rank-density based multiobjective genetic algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 944–949, IEEE Press, 2002.
- [163] H. Ishibushi, T. Yoshida and T. Murata, *Selection of initial solutions for local search in multiobjective genetic local search*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 950–955, IEEE Press, 2002.
- [164] M. Farina, *A neural network based generalized response surface multiobjective evolutionary algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 956–961, IEEE Press, 2002.
- [165] B. A. Kadrovach, J. B. Zydallis and G. B. Lamont, *Use of mendelian pressure in a multi-objective genetic algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 962–967, IEEE Press, 2002.
- [166] M. Shinkai, H. Aguirre and K. Tanaka, *Mutation strategy improves ga’s performance on epistatic problems*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 968–973, IEEE Press, 2002.
- [167] S. Tsutsui and D. E. Goldberg, *Simplex crossover and linkage identification: Single-stage evolution vs. multi-stage evolution*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 974–979, IEEE Press, 2002.
- [168] D. Thierens, *Adaptive mutation rate control schemes in genetic algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 980–985, IEEE Press, 2002.
- [169] M. Lones and A. Tyrrell, *Crossover and bloat in the functionality model of enzyme genetic programming*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 986–991, IEEE Press, 2002.
- [170] C. N. Bendtsen and T. Krink, *Phone routing using the dynamic memory model*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 992–997, IEEE Press, 2002.

- [171] J. Xu, T. Arslan and D. W. Qing-Wang, *Gps attitude determination using a genetic algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 998–1002, IEEE Press, 2002.
- [172] Y. Zhang, L. O. Hall, D. B. Goldgof and S. Sarkar, *A constrained genetic approach for reconstructing young's modulus of elastic objects from boundary displacement measurements*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1003–1008, IEEE Press, 2002.
- [173] N. S. Majumdar and D. Dasgupta, *Determining optimal configuration for turbine generator cooler*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1009–1014, IEEE Press, 2002.
- [174] J. Kim and P. J. Bentley, *Toward an artificial immune system for network intrusion detection: An investigation of dynamic clonal selection*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1015–1020, IEEE Press, 2002.
- [175] R. Michelan and F. J. Von Zuben, *Decentralized control system for autonomous navigation based on an evolved artificial immune network*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1021–1026, IEEE Press, 2002.
- [176] K. P. Anchor, P. D. Williams, G. H. Gunsch and G. B. Lamont, *The computer defense immune system: Current and future research in intrusion detection*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1027–1032, IEEE Press, 2002.
- [177] S. P. N. Singh, S. M. Thayer and W. P. Thayer, *A foundation for kilorobotic exploration*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1033–1038, IEEE Press, 2002.
- [178] D. Dasgupta and N. S. Majumdar, *Anomaly detection in multidimensional data using negative selection algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1039–1044, IEEE Press, 2002.
- [179] J. Balthrop, S. Forrest and M. R. Glickman, *Revisting lisy: Parameters and normal behavior*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1045–1050, IEEE Press, 2002.
- [180] C. A. C. Coello and M. S. Lechuga, *Mopso: A proposal for multiple objective particle swarm optimization*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1051–1056, IEEE Press, 2002.
- [181] A. P. Alves da Silva and P. J. Abrao, *Applications of evolutionary computation in electric power systems*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1057–1062, IEEE Press, 2002.
- [182] D. M. Falcao, *Genetic algorithms applications in electrical distribution systems*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1063–1068, IEEE Press, 2002.

- [183] K. Y. Lee and P. S. Mohamed, *A real-coded genetic algorithm involving a hybrid crossover method for power plant control system design*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1069–1074, IEEE Press, 2002.
- [184] I. N. Kassabalidis, M. A. El-Sharkawi and R. J. M. II, *Border identification for power system security assessment using neural network inversion: An overview*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1075–1079, IEEE Press, 2002.
- [185] V. Miranda and N. Fonseca, *Eppo - best-of-two worlds meta-heuristic applied to power system problems*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1080–1085, IEEE Press, 2002.
- [186] T. E. Revello and R. McCartney, *Generating war game strategies using a genetic algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1086–1091, IEEE Press, 2002.
- [187] S.-Y. Ho, S.-J. Ho and Z.-B. Huang, *An evolutionary approach for pose determination and interpretation of occluded articulated objects*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1092–1097, IEEE Press, 2002.
- [188] F. Rojas, C. G. Puntonet, I. Rojas, J. Ortega and A. Prieto, *Genetic algorithm approach to nonlinear blind source separation*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1098–1102, IEEE Press, 2002.
- [189] P. Collet, J. Louchet and E. Lutton, *Issues on the optimisation of evolutionary algorithms code*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1103–1108, IEEE Press, 2002.
- [190] P. Hingston, L. Barone and L. While, *Evolving crushers*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1109–1114, IEEE Press, 2002.
- [191] D. H. Milone, J. J. Merelo and H. L. Rufiner, *Evolutionary algorithm for speech segmentation*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1115–1120, IEEE Press, 2002.
- [192] Y. Qiao and X. WeiXin, *A network ids with low false positive rate*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1121–1126, IEEE Press, 2002.
- [193] E. J. Hughes, *Multi-objective evolutionary guidance for swarms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1127–1132, IEEE Press, 2002.
- [194] F. Jimenez, A. F. Gomez-Skarmeta, G. Sanchez and K. Deb, *An evolutionary algorithm for constrained multi-objective optimization*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1133–1138, IEEE Press, 2002.
- [195] K. H. Ang, G. Chong and Y. Li, *Preliminary statement on the current progress of multi-objective evolutionary algorithm performance measurement*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1139–1144, IEEE Press, 2002.



- [196] N. Madavan, *Multiobjective optimization using a pareto differential evolution approach*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1145–1150, IEEE Press, 2002.
- [197] M. Basseur, F. Seynhaeve and E. ghazali Talbi, *Design of multi-objective evolutionary algorithms: Application to the flow-shop scheduling problem*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1151–1156, IEEE Press, 2002.
- [198] J. Lohn, W. F. Kraus and G. L. Haith, *Comparing a coevolutionary genetic algorithm for multiobjective optimization*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1157–1162, IEEE Press, 2002.
- [199] A. K. Seth, *Distinguishing adaptive from non-adaptive evolution using ashby’s law of requisite variety*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1163–1168, IEEE Press, 2002.
- [200] B. A. Julstrom, *A scalable genetic algorithm for the rectilinear steiner problem*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1169–1173, IEEE Press, 2002.
- [201] N. Sadati and S. Kuchakkhani, *Genetic approach to pole placement by static output feedback*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1174–1179, IEEE Press, 2002.
- [202] M. Iwamatsu, *Co-evolutionary global optimization algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1180–1184, IEEE Press, 2002.
- [203] P. Cowling, G. Kendall and L. Han, *An investigation of a hyperheuristic genetic algorithm applied to a trainer scheduling problem*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1185–1190, IEEE Press, 2002.
- [204] P. J. Darwen, *Search landscape of a realistic single-machine scheduling task: Peaks with big differences*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1191–1196, IEEE Press, 2002.
- [205] E. K. Burke, P. De Causmaecker, S. Petrovic and G. V. Berghe, *A multi criteria meta-heuristic approach to nurse rostering*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1197–1202, IEEE Press, 2002.
- [206] J. Li and R. Kwan, *A fuzzy evolutionary approach with taguchi parameter setting for the set covering problem*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1203–1208, IEEE Press, 2002.
- [207] N. Nikolaev, L. M. de Menezes and H. Iba, *Overfitting avoidance in genetic programming of polynomials*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1209–1214, IEEE Press, 2002.

- [208] M. M. Fischer, *A novel modular product unit neural network for modelling constrained spatial interaction flows*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1215–1220, IEEE Press, 2002.
- [209] T. Endou and Q. Zhao, *Generation of comprehensible decision trees through evolution of training data*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1221–1225, IEEE Press, 2002.
- [210] C. Y. Ishida and A. T. R. Pozo, *Gpsql miner: Sql-grammar genetic programming in data mining*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1226–1231, IEEE Press, 2002.
- [211] M. Minami, A. Tamamura and T. Asakura, *Machine intelligence of a mobile manipulator to utilize dynamically interfered motion and nonlinear friction*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1232–1237, IEEE Press, 2002.
- [212] I. Sarafis, A. M. S. Zalzal and P. Trinder, *A genetic rule-based data clustering toolkit*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1238–1243, IEEE Press, 2002.
- [213] E. Avgerinos, A. M. S. Zalzal and G. Zografos, *Towards evolutionary optimisation for high resolution bathymetry from sidescan sonars*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1244–1249, IEEE Press, 2002.
- [214] T. Burczynski, W. Kus, E. Majchrzak, P. Orantek and M. Dziewonski, *Evolutionary computation in identification of a tumor*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1250–1254, IEEE Press, 2002.
- [215] F. Cupertino, D. Naso, L. Salvatore and B. Turchiano, *Design of cascaded controllers for dc drives using evolutionary algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1255–1260, IEEE Press, 2002.
- [216] M. Chrzanowska-Jeske, G. Greenwood and B. Wang, *Combining evolution strategies with lagrangian relaxation for constructing nonslicing vlsi floorplans with soft modules*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1261–1266, IEEE Press, 2002.
- [217] R. O. Canham and A. M. Tyrrell, *Evolved fault tolerance in evolvable hardware*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1267–1271, IEEE Press, 2002.
- [218] K. C. Tan, C. M. Chew, K. K. Tan, L. F. Wang and Y. J. Chen, *Autonomous robot navigation via intrinsic evolution*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1272–1277, IEEE Press, 2002.
- [219] C. Wei, Z. He, Y. Zhang and W. Pei, *Swarm directions embedded in fast evolutionary programming*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1278–1283, IEEE Press, 2002.

- [220] K. C. Tsui and J. Liu, *Evolutionary diffusion optimization, part ii: Performance assessment*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1284–1289, IEEE Press, 2002.
- [221] H.-K. Tsai, J.-M. Yang and C.-Y. Kao, *Solving traveling salesman problems by combining global and local search mechanisms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1290–1295, IEEE Press, 2002.
- [222] D. Ashlock, L. Guo and F. Qiu, *Greedy closure evolutionary algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1296–1301, IEEE Press, 2002.
- [223] K. C. Tan, A. Tay, T. H. Lee and C. M. Heng, *Mining multiple comprehensible classification rules using genetic programming*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1302–1307, IEEE Press, 2002.
- [224] H. Ghezelayagh and K. Y. Lee, *Intelligent predictive control of a power plant with evolutionary programming optimizer and neuro-fuzzy identifier*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1308–1313, IEEE Press, 2002.
- [225] M. L. Wong, S. Y. Lee and K. S. Leung, *A hybrid approach to learn bayesian networks using evolutionary programming*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1314–1319, IEEE Press, 2002.
- [226] X. Xu, H. gen He and D. Hu, *Evolutionary adaptive-critic methods for reinforcement learning*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1320–1325, IEEE Press, 2002.
- [227] N. X. Hoai, R. I. McKay, D. Essam and R. Chau, *Solving the symbolic regression problem with tree-adjunct grammar guided genetic programming: The comparative results*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1326–1331, IEEE Press, 2002.
- [228] M. Munetomo, *Linkage identification based on epistasis measures to realize efficient genetic algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1332–1337, IEEE Press, 2002.
- [229] S. Das, *Gene spill: An evolutionary algorithm based on bacterial gene exchange*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1338–1342, IEEE Press, 2002.
- [230] K. Yamamoto, T. Yoshikawa, T. Furuhashi, T. Shinogi and S. Tsuruoka, *Evaluation of search performance of bacterial evolutionary algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1343–1347, IEEE Press, 2002.
- [231] T. Smith, A. Philippides, P. Husbands and M. O’Shea, *Neutrality and ruggedness in robot landscapes*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1348–1353, IEEE Press, 2002.

- [232] M. Toussaint and C. Igel, *Neutrality: A necessity for self-adaptation*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1354–1359, IEEE Press, 2002.
- [233] R. Shipman, M. Shackleton and M. Ebner, *Issues in designing a neutral genotype-phenotype mapping*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1360–1365, IEEE Press, 2002.
- [234] W. Cyre, *Learning grammars with a modified classifier system*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1366–1371, IEEE Press, 2002.
- [235] R. K. Ursem and T. Krink, *Genetic programming with smooth operators for arithmetic expressions: Diviplication and subditiion*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1372–1377, IEEE Press, 2002.
- [236] S.-Y. H. S.-J. Ho. and T.-K. Chen, *Design of high performance fuzzy controllers using flexible parameterized membership functions and intelligent genetic algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1378–1383, IEEE Press, 2002.
- [237] M. R. Delgado, F. Von Zuben and F. Gomide, *Coevolutionary design of takagi-sugeno fuzzy systems*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1384–1389, IEEE Press, 2002.
- [238] R. Santana and H. Muehlenbein, *Blocked stochastic sampling versus estimation of distribution algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1390–1395, IEEE Press, 2002.
- [239] D.-Y. Cho and B.-T. Zhang, *Evolutionary optimization by distribution estimation with mixtures of factor analyzers*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1396–1401, IEEE Press, 2002.
- [240] Y. Katsumata, S. Kurahashi and T. Terano, *We need multiple solutions for electric equipments configuration in a power plant - applying bayesian optimization algorithm with tabu search*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1402–1407, IEEE Press, 2002.
- [241] J. E. Davis and G. Kendall, *An investigation, using co-evolution, to evolve an awari player*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1408–1413, IEEE Press, 2002.
- [242] R. Subbu and A. C. Sanderson, *Network performance of distributed coevolutionary agents*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1414–1419, IEEE Press, 2002.
- [243] J. Cartledge and S. Bullock, *Learning lessons from the common cold: How reducing parasite virulence improves coevolutionary optimization*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1420–1425, IEEE Press, 2002.

- [244] D. D. B. van Bragt and J. A. La Poutre, *Co-evolving automata negotiate with a variety of opponents*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1426–1431, IEEE Press, 2002.
- [245] T. Satoh, H. Kuwabara, Masakazu, Kanezashi and K. Nara, *Artificial life system and its application to multiple-fuel economic load dispatch problem*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1432–1437, IEEE Press, 2002.
- [246] S. Liang, A. N. Zincir-Heywood and M. I. Heywood, *The effect of routing under local information using a social insect metaphor*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1438–1443, IEEE Press, 2002.
- [247] L. Schoofs and B. Naudts, *Swarm intelligence on the binary constraint satisfaction problem*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1444–1449, IEEE Press, 2002.
- [248] J. Isaacs, R. Watkins and S. Foo, *Evolving ant colony systems in hardware for random number generation*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1450–1455, IEEE Press, 2002.
- [249] X. Xie, W. Zhang and Z. Yang, *A dissipative particle swarm optimization*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1456–1461, IEEE Press, 2002.
- [250] T. Blackwell and P. J. Bentley, *Improvised music with swarms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1462–1467, IEEE Press, 2002.
- [251] J. Lampinen, *A constraint handling approach for the differential evolution algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1468–1473, IEEE Press, 2002.
- [252] T. Krink, J. S. Vesterstrøm and J. Riget, *Particle swarm optimisation with spatial particle extension*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1474–1479, IEEE Press, 2002.
- [253] J. H. Koo, T. S. Kim, S. S. Dong and C. H. Lee, *Development of fpga based adaptive image enhancement filter system using genetic algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1480–1485, IEEE Press, 2002.
- [254] F. Corno, G. Cumani, M. S. Reorda and G. Squillero, *Efficient machine-code test-program induction*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1486–1491, IEEE Press, 2002.
- [255] N. Homma, T. Aoki and T. Higuchi, *Graph-based individual representation for evolutionary synthesis of arithmetic circuits*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1492–1497, IEEE Press, 2002.

- [256] R. Salomon, *The force model: Reducing the complexity by reformulating the problem*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1498–1503, IEEE Press, 2002.
- [257] K. Boonlong, N. Chaiyaratana and S. Kuntanapreeda, *Using a co-operative co-evolutionary genetic algorithm to solve optimal control problems in a hysteresis system*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1504–1509, IEEE Press, 2002.
- [258] H. Bersini, *And the winner is not the fittest*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1510–1515, IEEE Press, 2002.
- [259] B. Yuan, *Deterministic crowding, recombination and self-similarity*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1516–1521, IEEE Press, 2002.
- [260] Y. Murakami, H. Sato and A. Namatame, *Realizing unstable social efficiency with mutual learning of meta-rules*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1522–1527, IEEE Press, 2002.
- [261] O. Wittner and B. E. Helvik, *Cross entropy guided ant-like agents finding dependable primary/backup path patterns in networks*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1528–1533, IEEE Press, 2002.
- [262] R. Bjarnason and T. Peterson, *Multi-agent learning via implicit opponent modeling*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1534–1539, IEEE Press, 2002.
- [263] M. Jelasity, M. Preuss and B. Paechter, *A scalable and robust framework for distributed applications*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1540–1545, IEEE Press, 2002.
- [264] A. Watkins and L. Boggess, *A new classifier based on resource limited artificial immune systems*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1546–1551, IEEE Press, 2002.
- [265] S. Ando and H. Iba, *Ant algorithm for construction of evolutionary tree*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1552–1557, IEEE Press, 2002.
- [266] C. Blum and M. Sampels, *Ant colony optimization for fop shop scheduling: A case study on different pheromone representations*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1558–1563, IEEE Press, 2002.
- [267] M. Schreyer and G. R. Raidl, *Letting ants labeling point features*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1564–1569, IEEE Press, 2002.
- [268] J. S. Vesterstrøm, J. Riget and T. Krink, *Division of labor in particle swarm optimisation*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1570–1575, IEEE Press, 2002.

- [269] E. C. Laskari, K. E. Parsopoulos and M. N. Vrahatis, *Particle swarm optimization for minimax problems*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1576–1581, IEEE Press, 2002.
- [270] E. C. Laskari, K. E. Parsopoulos and M. N. Vrahatis, *Particle swarm optimization for integer programming*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1582–1587, IEEE Press, 2002.
- [271] M. Løvbjerg and T. Krink, *Extending particle swarm optimisers with self-organized criticality*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1588–1593, IEEE Press, 2002.
- [272] D. Harris and S. Bullock, *Enhancing game theory with coevolutionary simulation models of honest signaling*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1594–1599, IEEE Press, 2002.
- [273] R. P. Wiegand, W. Liles and K. De Jong, *Analyzing cooperative coevolution with evolutionary game theory*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1600–1605, IEEE Press, 2002.
- [274] T. Ord and A. Blair, *Exploitation and peacekeeping: introducing more sophisticated interactions to the iterated prisoner’s dilemma*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1606–1611, IEEE Press, 2002.
- [275] H. Murao, H. Tamaki and S. Kitamura, *A coevolutionary approach to adapt the genotype-phenotype map in genetic algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1612–1617, IEEE Press, 2002.
- [276] K. Anchor, G. Lamont and G. Gunsch, *An evolutionary programming approach for detecting novel computer network attacks*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1618–1623, IEEE Press, 2002.
- [277] C.-H. Chu, J. Gu, X. D. Hou and Q. Gu, *A heuristic ant algorithm for solving qos multicast routing problem*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1630–1635, IEEE Press, 2002.
- [278] C.-F. Tsai, C.-W. Tsai and C.-C. Tseng, *A new approach for solving large traveling salesman problem*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1636–1641, IEEE Press, 2002.
- [279] J. A. Khan, S. M. Sait and M. R. Minhas, *Fuzzy biasless simulated evolution for multiobjective vlsi placement*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1642–1647, IEEE Press, 2002.
- [280] H. Lu and G. G. Yen, *Dynamic population size in multiobjective evolutionary algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1648–1653, IEEE Press, 2002.

- [281] H. A. Abbass, N. X. Hoai and R. I. McKay, *Anttag: A new method to compose computer programs using colonies of ants*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1654–1659, IEEE Press, 2002.
- [282] J. T. Yang, H.-D. Huang and J.-T. Horng, *Devising a cost effective baseball scheduling by evolutionary algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1660–1665, IEEE Press, 2002.
- [283] X. Hu and R. Eberhart, *Adaptive particle swarm optimization: Detection and response to dynamic systems*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1666–1670, IEEE Press, 2002.
- [284] J. Kennedy and R. Mendes, *Population structure and particle swarm performance*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1671–1676, IEEE Press, 2002.
- [285] X. Hu and R. Eberhart, *Multiobjective optimization using dynamic neighborhood particle swarm optimization*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1677–1681, IEEE Press, 2002.
- [286] Y. Shi and R. A. Krohling, *Co-evolutionary particle swarm optimization to solve min-max problems*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1682–1687, IEEE Press, 2002.
- [287] R. A. Krohling, H. Knidel and Y. Shi, *Solving numerical equations of hydraulic problems using particle swarm optimization*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1688–1690, IEEE Press, 2002.
- [288] T. Blackwell and P. J. Bentley, *Don't push me! collision-avoiding swarms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1691–1696, IEEE Press, 2002.
- [289] J. Vincent, *A comparison of reproductive success and the effect of mating restrictions in coarse-grained parallel genetic algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1697–1702, IEEE Press, 2002.
- [290] K. S. Leung, K. H. Lee and S. M. Cheang, *Evolving parallel machine programs for a multi-alu processor*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1703–1708, IEEE Press, 2002.
- [291] X. Li and M. Kirley, *The effects of varying population density in a fine-grained parallel genetic algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1709–1714, IEEE Press, 2002.
- [292] K. Kojima, H. Matsuo and M. Ishigame, *Reduction of communication quantity for network based parallel ga*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1715–1720, IEEE Press, 2002.



- [293] A. Hamilton-Wright and D. Stacey, *Fault-tolerant network computation of individuals in genetic algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1721–1726, IEEE Press, 2002.
- [294] G. Galeano, F. Fernandez, M. Tomassini and L. Vanneschi, *Studying the influence of synchronous and asynchronous parallel gp on programs' length evolution*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1727–1732, IEEE Press, 2002.
- [295] J. A. Joines and M. G. Kay, *Hybrid genetic algorithms and random linkage*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1733–1738, IEEE Press, 2002.
- [296] R. Zhang, W. K. King and Q. Wang, *Applying evolutionary programming to improve branch classification in the hybrid branch prediction method using switch-counter*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1739–1744, IEEE Press, 2002.
- [297] M. Chang, K. Ohkura, K. Ueda and M. Sugiyama, *A symbiotic evolutionary algorithm for dynamic facility layout problem*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1745–1750, IEEE Press, 2002.
- [298] D. Srinivasan, T. H. Seow and J. X. Xu, *Automated time table generation using multiple context reasoning for university modules*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1751–1756, IEEE Press, 2002.
- [299] K. O. Stanley and R. Miikkulainen, *Efficient evolution of neural network topologies*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1757–1762, IEEE Press, 2002.
- [300] Y. Wang and Y. Lu, *The fast neural network solution for problems based on slow genetic algorithm solutions*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1763–1768, IEEE Press, 2002.
- [301] D. C. Edwards, K. E. Brown and N. K. Taylor, *An evolutionary method for the design of generic neural networks*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1769–1774, IEEE Press, 2002.
- [302] D. Weingaertner, V. K. Tatai, R. R. Gudwin and F. J. V. Zuben, *Hierarchical evolution of heterogeneous neural networks*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1775–1780, IEEE Press, 2002.
- [303] T. Kovacs, *Performance and population state metrics for rule-based learning systems*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1781–1786, IEEE Press, 2002.
- [304] A. Aizawa, *A co-evolutionary framework for clustering in information retrieval systems*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1787–1792, IEEE Press, 2002.

- [305] C.-Y. Lee and E. K. Antonsson, *Reinforcement learning in steady-state cellular genetic algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1793–1797, IEEE Press, 2002.
- [306] L. M. Hercog and T. C. Fogarty, *Co-evolutionary classifier systems for multi-agent simulation*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1798–1803, IEEE Press, 2002.
- [307] Y. Y. Wai, C. K. Chow and T. Lee, *Resolving ambiguity in depth extraction for motion capture using genetic algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1804–1809, IEEE Press, 2002.
- [308] M. J. Kaiser, K. C. Tsui and J. Liu, *Adaptive distributed caching*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1810–1815, IEEE Press, 2002.
- [309] S. Chavali, A. Pahwa and S. Das, *A genetic algorithm approach for optimal distribution feeder restoration during cold load pickup*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1816–1819, IEEE Press, 2002.
- [310] I. E. Golovkin, S. J. Louis and R. C. Mancini, *Parallel implementation of niched pareto genetic algorithm code for x-ray plasma spectroscopy*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1820–1824, IEEE Press, 2002.
- [311] B. Aktan, G. Greenwood and M. Shor, *Improving evolutionary algorithm performance on maximizing functional test coverage of asics using adaptation of the fitness criteria*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1825–1829, IEEE Press, 2002.
- [312] A. Stoica, R. Zebulum, D. Keymeulen, M. I. Ferguson and V. Duong, *Fuzzy controller implementations with fewer than ten transistors?*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1830–1835, IEEE Press, 2002.
- [313] J. Bird and P. Layzell, *The evolved radio and its implications for modelling the evolution of novel sensors*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1836–1841, IEEE Press, 2002.
- [314] R. H. Mazza, III and C. B. Congdon, *Towards a genetic algorithms approach to designing 3D polygonal tree models*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1842–1847, IEEE Press, 2002.
- [315] Y. Matsumura, K. Ohkura and K. Ueda, *Advantages of global discrete recombination in ( $\mu$ ,  $\mu$ ,  $\lambda$ ) evolution strategies*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1848–1853, IEEE Press, 2002.
- [316] O. Monakhov and E. Monakhova, *Using evolutionary algorithm for generation of dense families of circulant networks*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1854–1859, IEEE Press, 2002.

- [317] J.-X. Xu, S. K. Panda and Q. Zheng, *Multiobjective optimization of current waveforms for switched reluctance motors by genetic algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1860–1865, IEEE Press, 2002.
- [318] X. Wu, C.-H. Chu, Y. Wang and W. Yan, *A genetic algorithm for integrated cell formation and layout decision*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1866–1871, IEEE Press, 2002.
- [319] J. C. Bongard, *Evolving modular genetic regulatory networks*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1872–1877, IEEE Press, 2002.
- [320] P. R. W. Harvey, D. M. Booth and J. F. Boyce, *Evolving the mapping between input neurons and multi-source imagery*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1878–1883, IEEE Press, 2002.
- [321] B. Verma and R. Ghosh, *A novel evolutionary neural learning algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1884–1889, IEEE Press, 2002.
- [322] X. Fu and L. Wang, *A GA-based novel RBF classifier with class-dependent features*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1890–1894, IEEE Press, 2002.
- [323] G. G. Yen and N. Nithianandan, *Facial feature extraction using genetic algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1895–1900, IEEE Press, 2002.
- [324] B. Blaha and D. Wunsch, *Evolutionary programming to optimize an assembly program*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1901–1903, IEEE Press, 2002.
- [325] T. Beielstein, J. Dienstuhl, C. Feist and M. Pompl, *Circuit design using evolutionary algorithms*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1904–1909, IEEE Press, 2002.
- [326] R. Hoar, J. Penner and C. Jacob, *Evolutionary swarm traffic: If ant roads had traffic lights*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1910–1915, IEEE Press, 2002.
- [327] X. Fu and L. Wang, *Rule extraction from an rbf classifier based on class-dependent features*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1916–1921, IEEE Press, 2002.
- [328] P. Mordaunt and A. Zalzal, *Towards an evolutionary neural network for gait analysis*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1922–1927, IEEE Press, 2002.

- [329] S. H. Ling, H. K. Lam, F. H. F. Leung and P. K. S. Tam, *Learning of neural network parameters using a fuzzy genetic algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1928–1933, IEEE Press, 2002.
- [330] O. Ciftcioglu, *GA with orthogonal transformation for RBFN configuration*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1934–1939, IEEE Press, 2002.
- [331] K.-H. Lee, C.-H. Lee, J.-H. Kim, H.-L. Choi and M.-J. Tahk, *Evolutionary optimized pitching motion control for f-16 aircraft*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1940–1945, IEEE Press, 2002.
- [332] C. K. Chan, H. B. Gooi and M. H. Lim, *A co-evolutionary algorithm approach to a university timetable system*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1946–1951, IEEE Press, 2002.
- [333] S. Lucas, *Evolving spring-mass models: a test-bed for graph encoding schemes*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1952–1957, IEEE Press, 2002.
- [334] R. Torres-Velazquez and V. Estivill-Castro, *A memetic algorithm instantiated with selection sort consistently finds global optima for the error-correcting graph isomorphism*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1958–1963, IEEE Press, 2002.
- [335] S.-J. Kim, J.-S. Kim, J.-Y. Seo, H.-C. Cho and H.-T. Jeon, *Optimal initial structure of the rbf networks using time-frequency localization and genetic algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1964–1969, IEEE Press, 2002.
- [336] E. Tuci, M. Quinn and I. Harvey, *Evolving fixed-weight networks for learning robots*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1970–1975, IEEE Press, 2002.
- [337] S. Oeda, T. Ichimura and T. Yamashita, *Biological immune system by evolutionary adaptive learning of neural networks*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1976–1981, IEEE Press, 2002.
- [338] Y. Ding and L. Ren, *A new dna-based evolutionary algorithm with application to the design of fuzzy controllers*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1982–1987, IEEE Press, 2002.
- [339] D. Taylor, D. Corne, D. Taylor and J. Harkness, *Predicting alarms in supermarket refrigeration systems using evolved neural networks and evolved rulesets*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1988–1993, IEEE Press, 2002.
- [340] L. Xin, P. Vadakkepat, T. H. Lee, X. Peng and P. K. Kim, *Comparison of robot navigation by evolutionary neural networks and pain-based algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 1994–1999, IEEE Press, 2002.

- [341] R. K. H. Galvao, V. M. Becerra and M. Abou-Seada, *Variable selection for financial distress classification using a genetic algorithm*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 2000–2005, IEEE Press, 2002.
- [342] N. Svangard, S. Lloyd, P. Nordin and C. Wihlborg, *Evolving short-term trading strategies using genetic programming*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 2006–2010, IEEE Press, 2002.
- [343] T. Hamada, H. Kawamura, M. Yamamoto and A. Ohuchi, *A study on behavioral structure of artificial market based on adaptive game*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 2011–2016, IEEE Press, 2002.
- [344] K. Yamasaki, K. Kitakaze and M. Sekiguchi, *Dynamic optimization by evolutionary algorithms applied to financial time series*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 2017–2022, IEEE Press, 2002.
- [345] T. Minerva and S. Paterlini, *Evolutionary approaches for statistical modelling*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 2023–2028, IEEE Press, 2002.
- [346] D. Cliff, *Evolution of market mechanism through a continuous space of auction-types*, in *Proceedings of the 2002 Congress on Evolutionary Computation CEC2002* (D. B. Fogel, M. A. El-Sharkawi, X. Yao, G. Greenwood, H. Iba, P. Marrow and M. Shackleton, eds.), pp. 2029–2034, IEEE Press, 2002.