

## Список литературы

- [1] L. Panait and S. Luke, *A comparison of two competitive fitness functions*, 2002. Submitted to GECCO 2002.
- [2] P. Angeline and J. Pollack, *Competitive environments evolve better solutions for complex tasks*, pp. 264–270.
- [3] D. Cliff and G. F. Miller, *Tracking the red queen: Measurements of adaptive progress in co-evolutionary simulations*, in *Proceedings of the Third European Conference on Artificial Life*, pp. 200–218, Springer-Verlag, 1995.
- [4] R. Eriksson and B. Olsson, *Cooperative coevolution in inventory control optimisation*, in *Proceedings of the Third International Conference on Artificial Neural Networks and Genetic Algorithms* (G. Smith, N. Steele and R. Albrecht, eds.), (University of East Anglia, Norwich, UK), Springer, 1997.
- [5] S. Ficici and J. Pollack, *A game-theoretic approach to the simple coevolutionary algorithm*, pp. 467–476.
- [6] S. Ficici and J. Pollack, *Effects of finite populations on evolutionary stable strategies*, pp. 880–887.
- [7] S. Ficici and J. Pollack, *Game-theoretic investigation of selection methods used in evolutionary algorithms*, pp. 880–887.
- [8] S. Ficici and J. Pollack, *Challenges in coevolutionary learning: Arms-race dynamics, open-endedness, and mediocre stable states*, in *Proceedings of the Sixth International Conference on Artificial Life* (A. et al, ed.), (Cambridge, MA), pp. 238–247, MIT Press, 1998.
- [9] S. Ficici and J. Pollack, *Pareto optimality in coevolutionary learning*, tech. rep., Brandeis University, 2001.
- [10] D. Hillis, *Co-evolving parasites improve simulated evolution as an optimization procedure*, *Artificial Life II, SFI Studies in the Sciences of Complexity* **10** (1991) 313–324.
- [11] P. Husbands and F. Mill, *Simulated coevolution as the mechanism for emergent planning and scheduling*, in *Proceedings of the Fourth International Conference on Genetic Algorithms* (R. Belew and L. Booker, eds.), pp. 264–270, Morgan Kaufmann, 1991.
- [12] P. Husbands, *Distributed coevolutionary genetic algorithms for multi-criteria and multi-constraint optimisation*, in *Evolutionary Computing, AISB Workshop for Selected Papers*, pp. 150–165, Springer-Verlag, 1994.
- [13] C. Rosin and R. Belew, *New methods for competitive coevolution*, *Evolutionary Computation* **5** (1996), no. 1 1–29.
- [14] H. Juillé and J. Pollak, *Co-evolving intertwined spirals*, pp. 461–468.
- [15] A. Lubberts and R. Miikkulainen, *Co-evolving a Go-playing neural network*, in *Coevolution: Turning Adaptive Algorithms upon Themselves, (Birds-on-a-Feather Workshop, Genetic and Evolutionary Computation Conference)*, 2001.
- [16] D. E. Moriarty and R. Mikkulainen, *Discovering complex othello strategies through evolutionary neural networks*, *Connection Science* **7** (1995), no. 3 105–209.
- [17] D. Moriarty and R. Miikkulainen, *Forming neural networks through efficient and adaptive coevolution*, *Evolutionary Computation* **5** (1997), no. 4 373–399.
- [18] J. Paredis, *Steps towards co-evolutionary classification networks*, in *Artificial Life IV, Proceedings of the fourth International Workshop on the Synthesis and Simulation of Living Systems*. (R. A. Brooks and P. Maes, eds.), pp. 359–365, MIT Press, 1994.

- [19] M. Potter and K. De Jong, *Cooperative coevolution: An architecture for evolving coadapted subcomponents*, *Evolutionary Computation* **8** (2000), no. 1 1–29.
- [20] M. Potter and K. De Jong, *A cooperative coevolutionary approach to function optimization*, pp. 249–257.
- [21] M. Potter and K. De Jong, *Evolving neural networks with collaborative species*, pp. 307–317.
- [22] M. Potter, *The Design and Analysis of a Computational Model of Cooperative CoEvolution*. PhD thesis, George Mason University, Fairfax, Virginia, 1997.
- [23] M. Potter and K. De Jong, *The coevolution of antibodies for concept learning*, pp. 530–539.
- [24] C. Rosin and R. Belew, *New methods for competitive coevolution*, *Evolutionary Computation* **5** (1997), no. 1 1–29.
- [25] C. Rosin and R. Belew, *Methods for competitive co-evolution: Finding opponents worth beating*, pp. 373–380.
- [26] J. Paredis, *Coevolutionary computation*, *Artificial Life Journal* **2** (1996), no. 3.
- [27] D. Schlierkamp-Voosen and H. Mühlenbein, *Strategy adaptation by competing subpopulations*, pp. 199–108.
- [28] J. Pollack and A. Blair, *Coevolution in the successful learning of backgammon strategy*, *Machine Learning* **32** (1998), no. 3 225–240.
- [29] K. Sims, *Evolving three-dimensional morphology and behaviour*, in *Evolutionary Design by Computers* (P. Bentley, ed.). Morgan Kaufmann, 1999.
- [30] J. Pollack, A. Blair and M. Land, *Coevolution of a backgammon player*, in *Artificial Life V*, MIT Press, 1997.
- [31] H. Mayer, *Symbiotic coevolution of artificial neural networks and training data sets*, pp. 511–520.
- [32] C. Rosin, *Coevolutionary Search Among Adversaries*. PhD thesis, University of California, San Diego, 1997.
- [33] R. P. Wiegand, W. Liles and K. De Jong, *Analyzing cooperative coevolution with evolutionary game theory*, . (To appear).
- [34] R. P. Wiegand, *Applying diffusion to a cooperative coevolutionary model*, pp. 560–569.
- [35] R. P. Wiegand, W. Liles and K. De Jong, *An empirical analysis of collaboration methods in cooperative coevolutionary algorithms*, pp. 1235–1242.
- [36] G. Fogel, P. Andrews and D. Fogel, *On the instability of evolutionary stable strategies in small populations*, *Ecological Modeling* **109** (1998) 283–294.
- [37] D. Fogel, G. Fogel and P. Andrews, *On the instability of evolutionary stable strategies*, *BioSystems* **44** (1995) 135–152.
- [38] D. Fogel and G. Fogel, *Evolutionary stable strategies are not always stable under evolutionary dynamics*, in *Proceedings of the Fourth Annual Conference on Evolutionary Programming* (J. R. McDonnell, R. G. Reynolds and D. Fogel, eds.), (Cambridge, MA), pp. 565–577, MIT Press, 1995.
- [39] S. Kauffman, *Coevolution to the edge of chaos: coupled fitness landscapes, poised states, and coevolutionary avalanches*, in *Artificial Life II: Studies in the Sciences of Complexity* (C. Langton, C. Taylor, J. Farmer and S. Rasmussen, eds.), vol. X, pp. 325–369, Addison-Wesley, 1991.
- [40] L. Pagie and H. P., *Information integration and red queen dynamics in coevolutionary optimization*, pp. 1260–1267.

- [41] L. Pagie and M. Mitchell, *A comparison of evolutionary and coevolutionary search*, pp. 20–25.
- [42] L. Pagie and P. Hogeweg, *Evolutionary consequences of coevolving targets*, *Evolutionary Computation* **5** (1997), no. 4 401–418.
- [43] L. Pagie, *Coevolutionary dynamics: information integration, speciation, and red queen dynamics*. PhD thesis, University of New Mexico, Santa Fe, NM, 1999.
- [44] R. Watson and J. Pollack, *Coevolutionary dynamics in a minimal substrate*, pp. 702–709.
- [45] R. P. Wiegand, W. Liles and K. De Jong, *Multi-population symmetric game dynamics*, 2001. In preparation.
- [46] H. Juillé, *Basic concepts in coevolution*, 2001. Presentation at GECCO-01 Coevolutionary Workshop.
- [47] S. Luke, *Genetic programming produced competitive soccer softbot teams for RoboCup97*, in *Genetic Programming 1998: Proceedings of the Third Annual Conference* (J. R. Koza, W. Banzhaf, K. Chellapilla, K. Deb, M. Dorigo, D. B. Fogel, M. H. Garzon, D. E. Goldberg, H. Iba and R. Riolo, eds.), (University of Wisconsin, Madison, Wisconsin, USA), pp. 214–222, Morgan Kaufmann, July, 1998.
- [48] R. Axelrod, *The Evolution of Cooperation*. Basic Books, 1984.
- [49] D. Fogel, *Blondie24: Playing at the Edge of Artificial Intelligence*. Morgan Kaufmann, 2001.
- [50] K. Sims, *Evolving 3D morphology and behavior by competition*, in *Artificial Life IV, Proceedings of the fourth International Workshop on the Synthesis and Simulation of Living Systems*. (R. A. Brooks and P. Maes, eds.), pp. 28–39, MIT Press, 1994.
- [51] C. Reynolds, *Competition, coevolution and the game of tag*, in *Artificial Life IV, Proceedings of the fourth International Workshop on the Synthesis and Simulation of Living Systems*. (R. A. Brooks and P. Maes, eds.), pp. 59–69, MIT Press, 1994.
- [52] R. Smith and B. Gray, *Co-adaptive genetic algorithms: An example in othello strategy*, Tech. Rep. TCGA 94002, University of Alabama, Department of Engineering Science and Mechanics, 1993.
- [53] Axelrod, *The evolution of strategies in the iterated prisoner’s dilemma*, in *Genetic Algorithms and Simulated Annealing* (L. Davis, ed.). Morgan Kaufmann, 1987.