George Rudolph, PhD.

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Education

PhD. in Computer Science. Brigham Young University, Provo, Utah, 1995.
M.S. in Computer Science, Brigham Young University, Provo, Utah, 1991.
B.S. in Computer Science, Brigham Young University, Provo, Utah, 1989.

Professional Experience

Associate Professor of Computer Science, Utah Valley University, 2016-present
Associate Professor of Computer Science, The Citadel, 2012-2016
Assistant Professor of Computer Science, The Citadel, 2003-2012
Software Consultant, Mesa AZ, 2003
Software Engineer, Motorola, Scottsdale AZ, 1996-2002

Refereed Journal Articles

Rigoberto Florez, Breeanne Baker Swart, Darren Narayan, George Rudolph, Extrema Property of the k-Ranking of Directed Paths and Cycles. AKCE International Journal of Graphs and Combinatorics 2.6 (2016), 1-16. MR3410846. Free Version AKCE-Vol13-1 or AKCE-Vol 13-1

George Rudolph, Tony Martinez. Finding the Real Differences Between Learning Algorithms, International Journal on Artificial Intelligence Tools, Vol. 24, #3, June 2015, doi:10.1142/s0218213015500013.

White, Spencer and Martinez, Tony and Rudolph, George. Automatic Algorithm Development Using New Reinforcement Programming Techniques. Computational Intelligence, Vol. 28, #2, pp. 176-208, May 2012. doi: 10.1111/j.1467-8640.2012.00413.x.

Francel M. and Hurd, S. and Rudolph, G. and Sarvate, D., The Anatomy of a Design, *Congressus Numerantium 181*, pp. 77-88, 2006.

Rudolph, George, and Martinez, Tony. A Transformation Strategy for Implementing Distributed Multilayer Feedforward Networks: Backpropagation Transformation ". Future Generation Computer Systems, vol. 12, pp. 547-564. Elsevier Science, B.V. 1997.

Rudolph, George, and Martinez, Tony. LIA: A Location-Independent Transformation for ASOCS Adaptive Algorithm 2. International Journal of Neural Systems, vol. **7**, no. 5, pp. 639-653, 1996.

Rudolph, George, and Martinez, Tony. An Efficient Transformation for Implementing Two-layer Feedforward Neural Networks. Journal of Artificial Neural Networks, vol. 2, no. 3, pp. 263-282, 1995.

Rudolph, George, and Martinez, Tony." A Transformation for Implementing Localist Neural Networks." In Neural Parallel and Scientific Computations, vol. 3, no. 2, pp. 173-188, 1995.

Rudolph, George, and Martinez, Tony. "Location-Independent Transformations: A General Strategy for Implementing Neural Networks". In International Journal on Artificial Intelligence Tools, vol. 3, No. 3, pp. 417-427, 1994.

Refereed Conference Publications

Peterson, Adam and Martinez, Tony and Rudolph, George. On the Structure of Algorithm Spaces. In *Proceedings of International Joint Conference on Neural Networks, San Jose, California, USA, July 31-August 5, 2011*, pp. 658-665.

Rudolph, George and Banik, Shankar and Gilbert, Bryan. AD-NEMO: Adaptive Dynamic Network Expansion with Mobile rObots. In *Proceedings of the 48th Annual Southeast Regional Conference* (ACM SE '10). ACM, New York, NY, USA, Article 19 , 4 pages. DOI=10.1145/1900008.1900036 http://doi.acm.org/10.1145/1900008.1900036

White, Spencer and Martinez, Tony R. and Rudolph, George. Generating three binary addition algorithms using reinforcement programming. In *Proceedings of the 48th Annual Southeast Regional Conference* (ACM SE '10). ACM, New York, NY, USA, Article 46 , 6 pages. DOI=10.1145/1900008.1900072 http://doi.acm.org/10.1145/1900008.1900072.

White, Spencer and Martinez, Tony R. and Rudolph, George. Generating a novel sort algorithm using reinforcement programming. In Proceedings of IEEE Conference on Evolutionary Computation (CEC), 201, pages 2633-2640, 2010. doi: 10.1109/CEC.2010.5586457.

Rudolph, George, and Martinez, Tony. A Transformation for Implementing Efficient Dynamic Backpropagation Neural Networks. In Proceedings of the International Conference on Artificial Neural Networks and Genetic Algorithms, pp. 41-44, 1995.

Rudolph, George L., and Martinez, Tony. A Transformation for Implementing Neural Networks with Localist Properties. In Intelligent Systems. E. A. Yfantis (ed.), Vol. 1, pp. 637-645, Kluwer Academic Publishers, 1995.

Stout, Matthew, and Salmon, Linton and Rudolph, George and Martinez, Tony. A Multi-Chip Module Implementation of a Neural Network. Proceedings of the IEEE Multi-Chip Module Conference MCMC-94, pp. 20-25, 1994.

Stout, Matthew, and Rudolph, George, and Martinez, Tony and Salmon, Linton. A VLSI Implementation of a Parallel Self-Organizing Learning Model. Proceedings of the 12th International Conference on Pattern Recognition, vol. 3, pp. 373-376, 1994.

Martinez, Tony, and Rudolph, George. A Learning Model for Adaptive Network Routing. Proceedings of the International Workshop on Applications of Neural Networks to Telecommunications IWANNT93, pp. 183-187, 1993.

Rudolph, George, and Martinez, Tony. An Efficient Static Topology for Modeling ASOCS. International Conference on Artificial Neural Networks. In Artificial Neural Networks, Kohonen, et. al. (eds), Elsevier Science Publishers, pp. 729-734, 1991.

Rudolph, George, and Martinez, Tony. DNA: A New ASOCS Model With Improved Implementation Potential. In Proceedings of the IASTED International Symposium on Expert Systems and Neural Networks, pp. 12-15, 1989.

Campbell, D., Rudolph, G. A Polynomial Time Algorithm for Extended 2Sat. Proceedings, Western Educational Computing Conference, pp. 151-155. Western Periodicals Company, North Hollywood, CA. 1989.

Other Peer-reviewed Articles

G. Rudolph, "Some Guidelines For Deciding Whether To Use A Rules Engine". URL: http://www.jessrules.com/jess/guidelines.shtml. 2000.

Professional Activities

- XSEDE Campus Champion for The Citadel, 2012-2016
- XSEDE Conference Invited Reviewer, 2012-present
- XSEDE Program Committee, 2014-2016
- 3rd Citadel Online Academy, 2011
- Reviewer, International Joint Conference on Neural Networks, 2011-present
- Member, Association for Computing Machinery
- Citadel STEM Ambassadors Program Instructor for Computer Science, 2015-2016
- South Carolina Governor's School for Science and Mathematics, Summer Science Program and GoSciTech, Instructor, 2005-2016
- Citadel Cybersecurity Club co-advisor, 2012-2016