

Stefan Schliebs

CONTACT INFORMATION	KEDRI, WZ 705 350 Queen Street Auckland 1010 New Zealand	<i>Phone:</i> +64 9 921 9526 <i>Fax:</i> +64 9 921 9501 <i>E-mail:</i> sschlieb@aut.ac.nz <i>Web:</i> schliebs.dynamicconcept.de
CITIZENSHIP	Germany	
RESEARCH INTERESTS	Evolutionary computation with focus on Estimation of Distribution Algorithms, neural network especially spiking neurons, machine learning	
EDUCATION	PhD, Computer Science (thesis submitted: Mar 2010) Auckland University of Technology, New Zealand <ul style="list-style-type: none">- Thesis: Heterogeneous Probabilistic Models for Optimisation and Modelling of Evolving Spiking Neural Networks- Supervisors: Prof. Nikola Kasabov and Dr. Michaël Defoin Platel- Area of Study: Computational Intelligence Diplom-Informatiker (MSc equivalent), Mar 2006 University of Leipzig, Germany <ul style="list-style-type: none">- Thesis: Learning Processes and Artificial Evolution- Advisor: Prof. Ralf Der- Area of Study: Machine Learning- Grade: very good (1.5)	
AWARDS	Best Poster Award 8th New Zealand Computer Science Research Student Conference, Wellington, 2010 Dean's Award for Outstanding Postgraduate Studies Auckland University of Technology, Dec 2010 Vice Chancellor PhD Scholarship Auckland University of Technology, 2008-2010 AUT Lenovo Laptop Scholarship Auckland University of Technology, 2008 KEDRI PhD Scholarship Knowledge Engineering and Discovery Research Institute, 2006-2008	
ACADEMIC EXPERIENCE	Auckland University of Technology In my PhD thesis I propose a novel feature selection and classification method employing spiking neural networks and evolutionary algorithms. An evolutionary process evolves appropriate feature subsets for a given classification task and simultaneously optimizes the neural and learning-related parameters of the network. The optimizer belongs to the family of EDA and is based on a heterogeneous probabilistic model that allows the simultaneous exploration of a binary and a continuous search space. University of Leipzig In my Master thesis I worked on simple artificial agents exploring a chess board environment. The neural controller of the agent was evolved through a genetic algorithm.	

Additional Baldwinian learning allowed the agent to detect sudden environmental changes and adapt to them.

Internships

- Mar-Jul 2003: University Texas Medical Branch, Galveston/Texas/USA, Topic: Gene Expression Analysis Using Singular Value Decomposition

TEACHING

Teaching Assistant at AUT, Postgraduate Level

- Mar-Jul 2010, Lecture: Data Mining and Knowledge Discovery
- Mar-Jul 2010, Tutorial: Programming I

Co-supervision of Master Student Project

Apr-Jun 2007, Topic: Inference of Gene Regulatory Networks by means of Probabilistic Incremental Learning

COMM- UNICATIONS

Tutorials

- IEEE Joint Conference on Neural Networks, 2009, Atlanta, Georgia, USA
Title: To Spike or Not to Spike: Methods, Tools and Applications of Spiking Neural Networks

Conference Presentations

- IEEE Joint Conference on Neural Networks, 2009, Atlanta, Georgia, USA
Title: Quantum-inspired Feature and Parameter Optimization of Evolving Spiking Neural Networks with a Case Study from Ecological Modelling
- Intern. Conf. on Neural Information Processing, 2008, Auckland, New Zealand
Title: Quantum-inspired Feature and Parameter Optimization of Evolving Spiking Neural Network
- IEEE Congress on Evolutionary Computation, 2007, Singapore
Title: A Versatile Quantum-inspired Evolutionary Algorithm

TECHNICAL SKILLS

Programming: Java, Python, C/C++, Matlab, Basic, Pascal
Operating Systems: Linux (Ubuntu, Debian, SuSe), Windows
Other: \LaTeX , Web-design (PHP, mySQL, HTML, Java)

LANGUAGES

German (native speaker)
English (fluent)
Russian (basics)
French (beginner)

HOBBIES

Photography, table tennis, badminton, reading

PUBLICATIONS

Journal Publications

- S. Schliebs, M. Defoin-Platel, S. Worner, N. Kasabov, Integrated Feature and Parameter Optimization for Evolving Spiking Neural Networks: Exploring Heterogeneous Probabilistic Models, *Neural Networks*, Volume 22, Issues 5-6, 623-632, 2009
- M. Defoin Platel, S. Schliebs, and N. Kasabov, Quantum-inspired Evolutionary Algorithm: A multimodel EDA, *Evolutionary Computation, IEEE Transactions on*, Volume 13, Issue 6, 1218-1232, 2009
- S. Schliebs, M. Defoin-Platel, N. Kasabov, Integrated Feature and Parameter Optimization based on Evolving Spiking Neural Networks, *International Journal of Neural Systems*, 2010 (accepted for publication)

Peer-reviewed Conference Publications

- S. Schliebs, M. Defoin-Platel, N. Kasabov, Analyzing the Dynamics of the Simultaneous Feature and Parameter Optimization of an Evolving Spiking Neural Net-

- work, *Proc. of International Joint Conference on Neural Networks*, Barcelona, Spain, 2010 (accepted for publication)
- S. Schliebs, Heterogeneous Probabilistic Models for Optimisation and Modelling of Evolving Spiking Neural Networks, *Proc. of the New Zealand Computer Science Research Student Conference*, Wellington, NZ, 2010
 - S. Schliebs, M. Defoin-Platel, S. Worner, N. Kasabov, Quantum-inspired Feature and Parameter Optimization of Evolving Spiking Neural Networks with a Case Study from Ecological Modelling, *Proc. of International Joint Conference on Neural Networks*, Atlanta, Georgia, USA, 2833-2840, 2009
 - S. Schliebs, M. Defoin-Platel, N. Kasabov, Integrated Feature and Parameter Optimization for an Evolving Spiking Neural Network, in: M. Koeppen, N. Kasabov, G. Goghil and M. Ishikawa (eds) *Advances in neural information processing, Proc. of ICONIP 2008*, Auckland, 1229-1236, 2009
 - W. De Mulder, S. Schliebs, R. Boel, M. Kuiper, Initialization Dependence of Clustering Algorithms, in: M. Koeppen, N. Kasabov and G. Goghil (eds) *Advances in neural information processing, Proc. of ICONIP 2008*, Auckland, 2009
 - M. Defoin-Platel, S. Schliebs, N. Kasabov, A Versatile Quantum-inspired Evolutionary Algorithm, *Proc. of Congress on Evolutionary Computation*, Singapore, 423-430, 2007