

Curriculum Vitae for Simon Andreas Günter

Personal Details

Date of birth 9 August 1976
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Marital status single
Citizenship Swiss
Languages skills German (Native language), English (Very good), French (Good)



Education

autumn 96 - autumn 00 Study of computer science at the University of Bern including secondary subjects Mathematics and Physics
winter 00 - winter 03 PhD student in the research group of Computer Vision and Artificial Intelligence of the University of Bern

Work experience

autumn 99 - spring 00 Teaching assistant for lecture EI (Introduction to Computer Science) at the University of Bern
spring 00 - winter 03 Research and lecture assistant in the research group of Computer Vision and Artificial Intelligence of the University of Bern
February 04 - April 04 Postdoc position in the research group of Computer Vision and Artificial Intelligence of the University of Bern
July 04 - November 05 Software Engineer at Avaloq, Zürich, Switzerland
January 06 - Postdoc position at NICTA, Canberra, Australia

Other Professional Activities:

- Project docserver for the Swiss Federal Institute of Intellectual Property (IGE): Java program for downloading patent documents from several servers
- Project “trademark application” for Swiss Federal Institute of Intellectual Property (IGE): Java program for trademark application
- Assisted writing reports of several local press conferences for the newspapers 'Berner Zeitung' and 'Jungfrau Zeitung'
- Representative of the lecture and research assistants in the faculty of science of the University of Bern

Teaching and Supervision

- Lecture assistant for the course 'Compilers' at the University of Bern (2001,2002,2003)
- Co-supervised 6 student projects and 5 master thesis at University of Bern
- Co-supervising 2 PhD students at NICTA
- Co-lectured course 'Overview of Statistical Machine Learning' (2006) at the ANU, Australia
- Main-coordinator of the course 'Introduction to Statistical Machine Learning' (2007) at the ANU, Australia

Reviewing

Reviewed papers for: Int. Workshop on Frontiers in Handwriting Recognition, Int. Workshop on Multiple Classifier Systems, Int. Conference on Document Analysis and Recognition, Int. Conference on Pattern Recognition, Pattern Recognition Letters, IEEE Trans. on Neural Networks

Academic titles

- November 2000: MSc from University of Bern (Computer Science)
- January 2004: PhD from University of Bern (Computer Science)

Publications

Theses

- [1] S. Günter. Clustering von Graphen mit Hilfe des Kohonenverfahrens (in German). Master's thesis, university of Bern, Switzerland, 2000.
- [2] S. Günter. *Multiple Classifier Systems in Offline Cursive Handwriting Recognition*. PhD thesis, university of Bern, Switzerland, 2004.

Journal Articles

- [1] S. Günter and H. Bunke. Weighted mean of a pair of graphs. *Computing*, 67(3):209–224, 2001.
- [2] S. Günter and H. Bunke. Ensembles of classifiers for handwritten word recognition. international journal of document analysis and recognition. *International Journal of Document Analysis and Recognition*, 5(4):224 – 232, 2002.
- [3] S. Günter and H. Bunke. Self-organizing map for clustering in the graph domain. *Pattern Recognition Letters*, 23:401 – 417, 2002.
- [4] S. Günter and H. Bunke. Validation indices for graph clustering. *Pattern Recognition Letters*, 24(8):1107–1113, 2003.
- [5] S. Günter and H. Bunke. Handwritten word recognition using classifier ensembles generated from multiple prototypes. *Int. Journal of Pattern Recognition and Art. Intelligence*, 18(5):957–974, 2004.
- [6] S. Günter and H. Bunke. Multiple classifier systems in off-line handwritten word recognition - on the influence of training set and vocabulary size. *Int. Journal of Pattern Recognition and Art. Intelligence*, 18(7):1303–1320, 2004.
- [7] S. Günter and H. Bunke. Feature selection algorithms for the generation of multiple classifier systems and their application to handwritten word recognition. *Pattern Recognition Letters*, 25:1323–1336, 2004.

- [8] S. Günter and H. Bunke. Hmm-based handwritten word recognition: on the optimization of the number of states, training iterations and gaussian components. *Pattern Recognition*, 37:2069–2079, 2004.
- [9] S. Günter and H. Bunke. Optimization of weights in a multiple classifier handwritten word recognition system using a genetic algorithm. *Electronic Letters of Computer Vision and Image Analysis*, 3(1):25–44, 2004.
- [10] S. Günter and H. Bunke. Off-line cursive handwriting recognition using multiple classifier systems - on the influence of vocabulary, ensemble, and training set size. *Optics and Lasers in Engineering*, 43:437–454, 2005.
- [11] Simon Günter, Nicol N. Schraudolph, and S.V.N. Vishwanathan. Fast iterative kernel principal component analysis. *Journal of Machine Learning Research*, accepted for publication.
- [12] Brian J Parker, Simon Günter, and Justin Bedo. Stratification bias in low signal microarray studies. *BMC Bioinformatics*, accepted for publication.

Conferences and Book Chapters

- [1] S. Günter and H. Bunke. Validation indices for graph clustering. In J.-M. Jolion, W. Kropatsch, and M. Vento, editors, *3rd IAPR-TC15 Workshop on Graph-based Representations in Pattern Recognition*, pages 229–238, 2001.
- [2] H. Bunke, S. Günter, and X. Jiang. Towards bridging the gap between statistical and structural pattern recognition: Two new concepts in graph matching. In S. Singh, N. Murshed, and W. Kropatsch, editors, *Advances in Pattern Recognition - ICAPR 2001*, pages 1–11, 2001.
- [3] S. Günter and H. Bunke. A new combination scheme for hmm-based classifiers and its application to handwriting recognition. In *Proc. of the 16th Int. Conference on Pattern Recognition*, volume 2, pages 332–337, Quebec, Canada, 2002.
- [4] S. Günter and H. Bunke. Creation of classifier ensembles for handwritten word recognition using feature selection algorithm. In *Proc. of the*

- 8th Int. Workshop on Frontiers in Handwriting Recognition*, pages 183 – 188, Niagara-on-the-Lake, Canada, 2002.
- [5] S. Günter and H. Bunke. Generating classifier ensembles from multiple prototypes and its application to handwriting recognition. In F. Roli and J. Kittler, editors, *Proc. of the 3rd Int. Workshop on Multiple Classifier Systems*, pages 179 – 188, Cagliari, Italy, 2002.
 - [6] S. Günter and H. Bunke. Adaptive self-organizing map in the graph domain. In H. Bunke and A. Kandel, editors, *Hybrid methods in pattern recognition*, pages 61 – 74. World Scientific, 2002.
 - [7] S. Günter and H. Bunke. Optimizing the number of states, training iterations and gaussians in an hmm-based handwritten word recognizer. In *Proc. of the 7th Int. Conference on Document Analysis and Recognition*, volume 1, pages 472 – 476, Edinburgh, Scotland, 2003.
 - [8] S. Günter and H. Bunke. Fast feature selection in an hmm-based multiple classifier system for handwriting recognition. In B. Michaelis and G. Krell, editors, *Proc. of the 25th DAGM Symposium*, pages 289 – 296, Magdeburg, Germany, 2003.
 - [9] S. Günter and H. Bunke. New boosting algorithms for classification problems with large number of classes applied to a handwritten word recognition task. In T. Windeatt and F. Roli, editors, *Proc. of the 4th Int. Workshop on Multiple Classifier Systems*, pages 326 – 335, Guildford, United Kingdom, 2003.
 - [10] S. Günter and H. Bunke. Off-line cursive handwriting recognition - on the influence of training set and vocabulary size in multiple classifier systems. In *Proc. of the 11th Conference of the International Graphonomics Society*, Scottsdale, Arizona, USA, 2003.
 - [11] S. Günter and H. Bunke. Ensembles of classifiers for handwritten word recognition specialized on individual handwriting styles. In S. Marinai and Dengel A., editors, *Proc. 6th Int. Workshop on Document Analysis Systems*, volume 4 of *Springer LNCS 3163*, pages 286 – 297, 2004.
 - [12] S. Günter and H. Bunke. Combination of three classifiers with different architectures for handwritten word recognition. In *Proc. 9th Int. Workshop on Frontiers in Handwriting Recognition*, page 63 – 68, 2004.
 - [13] S. Günter and H. Bunke. Evaluation of classical and novel ensemble methods for handwritten word recognition. In *Proc 10th Int. Workshop on Structural and Syntactic Pattern Recognition (SSPR)*, pages 583–591, 2004.

- [14] S. Günter and H. Bunke. Ensembles of classifiers derived from multiple prototypes and their application to handwriting recognition. In *Proc. of the 5th Int. Workshop on Multiple Classifier Systems*, pages 314–323, Cagliari, Italy, 2004.
- [15] S. Günter and H. Bunke. An evaluation of ensemble methods in handwritten word recognition based on feature selection. In *Proc. 17th Int. Conference on Pattern Recognition*, page 388–392, 2004.
- [16] Conrad Sanderson and Simon Günter. On authorship attribution via markov chains and sequence kernels. In *Proc. 18th Int. Conf. Pattern Recognition (ICPR)*, Hong Kong, 2006.
- [17] Conrad Sanderson and Simon Günter. Short text authorship attribution via sequence kernels, markov chains and author unmasking: An investigation. In *Proc. Int. Conf. Empirical Methods in Natural Language Processing (EMNLP)*, Sydney, 2006.
- [18] Nicol N. Schraudolph, Simon Günter, and S.V.N. Vishwanathan. Fast iterative kernel PCA. In B. Schölkopf, J. Platt, and T. Hoffman, editors, *Advances in Neural Information Processing Systems*, volume 19, pages 1225–1232, Cambridge, MA, 2007. MIT Press.
- [19] Nicol N. Schraudolph, Jin Yu, and Simon Günter. A stochastic quasi-Newton method for online convex optimization. In Marina Meila and Xiaotong Shen, editors, *Proc. 11th Intl. Conf. Artificial Intelligence and Statistics (AISTATS)*, pages 433–440, San Juan, Puerto Rico, March 2007. Society for Artificial Intelligence and Statistics.