

# Curriculum Vitae

**Lars F. Niklasson**

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## General

Date of birth: January 25th 1962

Home address: Solistvägen 7, 541 57 Skövde, Sweden.

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Wife: Anna Niklasson

Children: 2, born 2002 and 2005

## Education and employment

- 1989 BSc, Computer Science, University of Skövde, Sweden
- 1990 MSc, Computer Science - New Generation Representations, Supervisor Dr. Ajit Narayanan, Department of Computer Science, University of Exeter, UK.
- 1996 PhD, Computer Science, Supervisor: Prof. Noel E. Sharkey, Department of Computer Science, University of Sheffield, UK.
- 1987-1996 Employment as assistant lecturer (amanuens), Dept. of Computer Science, University of Skövde, Sweden
- 1996 -2000 Employment as senior lecturer (lektor), Dept. of Computer Science, University of Skövde, Sweden
- 2000-2013 Employment as Professor of Computer Science, Dept. of Computer Science, University of Skövde, Sweden
- 2001-2003 Head of Department, Department of Computer Science, Univ. of Skövde, Sweden
- 2003-2013 Pro vice-chancellor (vice-president) University of Skövde, Sweden
- 2007-2013 Employment (unpaid) as Associate Professor (docent) of Computer Science, Department of Technology, University of Örebro, Sweden
- 2003-2013 Pro vice-chancellor University of Skövde, Sweden
- 2013 - Pro vice-chancellor Jönköping University, Sweden

## Conferences

- 1992 Chair of the first Swedish Conference on Connectionism. Skövde, Sweden
- 1995 Chair of the second Swedish Conference on Connectionism, Skövde, Sweden
- 1998 Chair of the International Conference on Artificial Neural Networks (ICANN '98), Sweden
- 1998 Member of the Organizing Committee, Mechatronics '98, Sweden
- 1998 Member of the Program Committee, Engineering Applications of Neural Networks (EANN '98), Gibraltar
- 1999 Member of the Organizing Committee, ICANN '99, Edinburgh, Scotland
- 1999 Member of the Organizing Committee, Artificial Neural Networks In Medicine and Biology (ANNIMAB-1), Gothenburg, Sweden
- 2000 Member of the Programme Committee, European Conference on Artificial Intelligence (ECAI2000), Berlin, Germany
- 2000 Member of the Programme Committee, International Joint Conference on Neural Networks (IJCNN2000), Lake Como, Italy
- 2001 Member of the Programme Committee, International Conference on Artificial Neural Networks (ICANN2001), Vienna, Austria
- 2001 General chair of the workshop of the Swedish AI Society (SAIS2001), Skövde, Sweden
- 2002 Member of the Programme Committee, International Conference on Artificial Neural Networks (ICANN2002), Madrid, Spain
- 2003 Member of the Programme Committee, International Conference on Artificial Neural Networks (ICANN2002), Istanbul, Turkey
- 2004 Member of the Programme Committee, The 7th International Conference on Information fusion (FUSION2004), Stockholm, Sweden
- 2006 Member of the Programme Committee, The 9th International Conference on Information fusion (FUSION2006), Florence, Italy

## Other Scientific Committees

- 2001 (may) External member on a panel for a readership in 'Intelligent Systems' at London Guildhall University, UK. Evaluation of 1 applicant
- 2001 (june) External reviewer for a lectureship in Software Engineering with a focus on learning systems, at Örebro University, Sweden.
- 2002 (mars) External reviewer for a lectureship in Computer Science at Borås University, Sweden.
- 2002 (mars) External reviewer for a lectureship/professorship in Computer Science with a focus on learning systems, at Luleå University, Sweden.
- 2003 (mars) External reviewer for a proposal for a MSc - study programme in Computer Engineering, Borås University, Sweden.
- 2006 (may) Thesis panel (betygsnämnd) for Tony Lindgren's PhD thesis, *Methods of solving conflicts among induced rules*, Stockholms universitet/KTH DSV, Institutionen för data- och systemvetenskap.

- 2006 (june) Thesis panel (betygsnämnd) for Tarja Susi's PhD thesis, *The puzzle of social activity - The significance of tools in cognition and cooperation*. University of Linköping, University of Skövde.
- 2006 (june) External reviewer for a professorship in simulation at Högskolan Väst. Evaluation of 1 applicant.
- 2007 (aug) External reviewer for a professorship in Information technology, at Örebro University. Evaluation of 6 applicants.
- 2007 (nov) Thesis panel (betygsnämnd) for Cristofer Englund's PhD thesis, *Modelling and Controlling an Offset Lithographic Printing Process*, Chalmers University och Technology, Halmstad University.
- 2008 (aug) External reviewer for a professorship in Information technology at Örebro University. Evaluation of 1 applicant.
- 2010 (sept) External reviewer for a lectureship in Computer Science at Halmstad University. Evaluation of 25 applicants.
- 2011 (april) External reviewer for a professorship in Information technology at Örebro University. Evaluation of 1 applicant.
- 2012 (april) Thesis panel (betygsnämnd) for Anita Pinhero Sant'anna's PhD thesis, *A Symbolic Approach to Human Motion Analysis Using Inertial Sensors: Framework and Gait Analysis Study*, University of Halmstad, Sweden
- 2014 (april) External reviewer for an adjunct professorship in Computer Science at The Royal Institute of Technology, Stockholm. Evaluation of 1 applicant.
- 2014 (june) Thesis panel (betygsnämnd) for Jens Lundberg's PhD thesis, *Situation Awareness in Colour Printing and Beyond*, University of Halmstad, Sweden.
- 2014 (june) External reviewer for a position as associate professor (laborator) at the Swedish Defence Research Agency, Stockholm. Evaluation of 1 applicant.
- 2014 (july) External reviewer for six research project applications for a Swedish university.
- 2015 (jan) External reviewer for a professorship in Computer Science at Blekinge Institute of Technology, Karlskrona, Sweden. Evaluation of 1 applicant.
- 2015 (july) External reviewer for four research project applications for a Swedish university.

## Refereed Publications (journal papers)

Erlandsson, T. and Niklasson, L., (2015), An Air-to-Ground Combat Survivability Model, *The Journal of Defense Modeling and Simulation: Applications, Methodology, Technology*, vol 12(3), pp. 273-287, published online 7 May 2013, ISSN: 1557-380X, DOI: 10.1177/1548512913484399

Erlandsson, T. and Niklasson, L., (2014), Automatic evaluation of air mission routes with respect to combat survival, *Information Fusion*, Volume 20, pp. 88-99. Elsevier. (published online 31 December 2013), ISSN: 1566-2535.

Alklind Taylor, A-S., Backlund, P. and Niklasson, L., (2012), The Coaching Cycle: A Coaching-by-Gaming Approach in Serious Games, *Simulation and Gaming*, SAGE Publications, ISSN: 1046-8781, doi:10.1177/1046878112439442.

Gustavsson, P. M, Hieb, M. R., Moore, P., Eriksson, P. and Niklasson, L., (2011), Operations Intent and Effects Model, *The Journal of Defense Modeling and Simulation: Applications, Methodology, Technology*, January 2011; vol. 8, 1: pp. 37-59. doi:10.1177/1548512910379477

Johansson, U., König, R. and Niklasson, L. (2009) Genetically Evolved Nearest Neighbor Ensembles, *Annals of Information Systems*, Special issue on data mining, pp. 299-313, Springer Verlag.

R. König, U. Johansson and L. Niklasson (2006). Increasing rule extraction comprehensibility, *International Journal of Information Technology and Intelligent Computing*, 1, pp. 303-314.

U. Johansson, T. Lofstrom, R. König and L. Niklasson (2006), Why Not Use an Oracle When You Got One?, *Neural Information Processing - Letters and Reviews*, pp. 227-236.

Niklasson, L. F. and Linåker, F (2000), Distributed Representations for Extended Generalisation, *Connection Science*, vol 12, no 3/4, Carfax Publishing Ltd, Abingdon, Oxfordshire, UK, pp 299 - 314.

Bodén M. B. and Niklasson L. F., (2000), Semantic Systematicity and Context in Connectionist Networks, *Connection Science*, vol 12, no 2, Carfax Publishing Ltd, Abingdon, Oxfordshire, UK, pp 1 - 31.

Niklasson L. F. and van Gelder T., (1994), On Being Systematically Connectionist, *Mind and Language*, vol. 9., no. 3., Blackwell Publishers, pp 288 - 302.

## Refereed Publications (conference papers)

T. Erlandsson and L. Niklasson, "Threat Assessment for Missions in Hostile Territory - From the Aircraft Perspective," in *Proceedings of the 16th International Conference on Information Fusion (FUSION 2013)*, 2013, Istanbul, Turkey, ISBN: [978-605-86311](#).

T. Erlandsson and L. Niklasson, (2013), Comparing Air Mission Routes from a Combat Survival Perspective, in *Proceedings of the Twenty-Sixth International Florida Artificial Intelligence Research Society Conference*, 2013, pp. 58- 63, The AAAI Press, (online) <http://www.aaai.org/ocs/index.php/FLAIRS/FLAIRS13/paper/viewFile/5839/6042>

- Erlandsson, T. and Niklasson, L. (2012) Calculating Uncertainties in Situation Analysis for Fighter Aircraft Combat Survivability. *Proceedings of the 15th International Conference on Information Fusion (FUSION 2012)*, pp.196-203, IEEE. ISBN: 978-0-9824438-4-2. (kat 2)
- Erlandsson, T. and Niklasson L., (2011), Uncertainty Measures for Sensor Management in a Survivability Application, In Heiß, H.-U., Pepper, P., Schlingloff, H., and Schneider, J. (Eds.), *Informatik 2011. LNI P-192*, Bonner Köllen Verlag. ISSN: 1617-5468, ISBN: 978-3-88579-286-4
- Erlandsson, T., Niklasson, L., Nordlund, P.-J. and Warston, H., (2011) “Modeling Fighter Aircraft Mission Survivability,” in *Proceedings of the 14th International Conference on Information Fusion (FUSION 2011)*, Chicago, United States, pp. 1038-1045 ISBN: 978-0-9824438-3-5
- Erlandsson, T., Helldin, T., Falkman, G. and Niklasson, L. (2010) Information Fusion supporting Team Situation Awareness for Future Fighting Aircraft. *Proceedings of the 13th International Conference on Information Fusion*, Edinburgh, United Kingdom. IEEE. ISBN: 978-0-9824438-1-1.
- Dahlbom, A., Niklasson, L., Falkman, G. (2010) DESIRER: a Development Environment for Situation Recognition Research, *The 2010 Second Global Congress on Intelligent Systems*, IEEE Computer Society, ISBN:978-0-7695-4304-8.
- Dahlbom, A., Niklasson, L., Falkman, G. (2010) Attempting to increase the Performance of Petri net based Situation Recognition. In *Proceedings of the 22nd Benelux Conference on Artificial Intelligence*, Luxembourg, Luxembourg, 25-26 October 2010. Benelux Association for Artificial Intelligence, ISSN: 1568-7805.
- Dahlbom, A., Niklasson, L., Falkman, G. (2010) Evolving Petri Nets for Situation Recognition. In Arabnia, H.R., Hashemi, R.R., and Solo, A.M. (Eds.) *GEM 2010. Proceedings of the 2010 International Conference on Genetic and Evolutionary Methods*, Las Vegas, Nevada, USA, 12-15 July 2010, pp. 29-35. CSREA Press, ISBN: 1-60132-145-7.
- Johansson, U., König, R., Löfström, T. and Niklasson, L., (2010) Using Imaginary Ensembles to Select GP Classifiers. Esparcia-Alcazar, A.I., et al. (Eds.) *Genetic Programming, 13th European Conference, EuroGP 2010, LNCS 6021*, pp. 278–288, Springer-Verlag. ISBN 978-3-642-12147-0.
- Johansson, U., König, R. and Niklasson, L., (2010), Genetic Rule Extraction Optimizing Brier Score, Pelikan, M. and Branke, J., (eds), *Proceedings of the Genetic and Evolutionary Computation Conference, GECCO 2010*, pp. 1007-1014, ACM, ISBN 978-1-45-03-0072-5
- Johansson, U. and Niklasson, L. (2009) Evolving Decision Trees Using Oracle Guides. In *Proceedings of IEEE Symposium on Computational Intelligence and Data Mining (CIDM)*, pp. 238-244, Nashville, TN. ISBN: 978-1-4244-2765-9.
- Johansson, U., König, R., Löfström, T., Sönströd, C. and Niklasson, L. (2009) Post-processing Evolved Decision Trees. In Abraham, A., Hassanien, A.-E., and Carvalho, A.P. de L.F. de (Eds.) *Foundations of Computational Intelligence, Volume 4: Bio-Inspired Data Mining Theoretical Foundations and Applications*, pp.149-164, Springer Verlag. ISBN: 978-3-642-01087-3.
- Brax, C., and Niklasson, L. (2009) Enhanced Situational Awareness in the Maritime Domain: An Agent-based Approach for Situation Management. In *Proceedings of SPIE, Vol. 7352, 735203*. Orlando, Florida, USA, 13–17 April 2009. ISSN: 0277-786X (print), ISBN: 9780819476180, DOI: 10.1117/12.818477.

Brax, C., and Niklasson, L. (2009) An approach for increased supply chain security by using automatic detection of anomalous vehicle behaviour, Proceedings of the 6th International Conference on Modeling Decisions for Artificial Intelligence, pp. 165-176, Awaji Island, Japan. ISBN: 978-84-00-08851-4. [CD-ROM]

Brax, C., Niklasson, L., and Laxhammar, R. (2009) An ensemble approach for increased anomaly detection performance in video surveillance data. *Proceedings of the 12th International Conference on Information Fusion (FUSION 2009)*, Seattle, WA, USA. pp. 694-701, ISIF. ISBN: 978-0-9824438-0-4.

Dahlbom, A., Niklasson, L., and Falkman, G. (2009) A Component-based Simulator for Supporting Research on Situation Recognition. In Proceedings of SPIE, Vol 7352, 735206. ISSN: 0277-786X (print), ISBN: 9780819476180, DOI: 10.1117/12.818537.

Dahlbom, A., Niklasson, L., Falkman, G., and Loutfi, A. (2009) Towards Template-based Situation Recognition. In Proceedings of SPIE, Vol. 7352, 735205. ISSN: 0277-786X (print), ISBN: 9780819476180, DOI: 10.1117/12.818715. (kat. 3)

Dahlbom, A., Niklasson, L., and Falkman, G. (2009) Situation Recognition and Hypothesis Management Using Petri Nets. In Torra, V., Narukawa, Y., and Inuiguchi, M. (Eds.), Proceedings of the 6th International Conference on Modeling Decisions for Artificial Intelligence (MDAI 2009), LNAI 5861, pp. 303-314, Springer-Verlag. ISBN: 978-3-642-04819-7, ISSN: 0302-9743 (Print), 1611-3349 (Online), DOI: 10.1007/978-3-642-04820-3

Dahlbom, A. and Niklasson, L. (2009) Evolving Petri Net Situation Templates for Situation Recognition. In *Proceedings of the Skövde Workshop on Information Fusion Topics (SWIFT 2009)*, Skövde University Studies in Informatics 2009:3, pp. 11-16, University of Skövde, Sweden. ISBN: 978-91-978513-2-9, ISSN: 1653-2325.

Brax, C., Laxhammar, R., and Niklasson, L. (2008) Approaches for detecting behavioural anomalies in public areas using video surveillance data. In *SPIE Europe Security and Defence - Proceedings of SPIE Volume 7113*, September 15-18, 2008, Cardiff, Wales. ISBN: 9780819473455.

König, R., Johansson, U. and Niklasson, L. (2008), [G-REX: A Versatile Framework for Evolutionary Data Mining](#), *2008 IEEE International Conference on Data Mining Workshops*, pp. 971-974, ISBN 978-0-7695-3503-6, 15-19 dec 2008, Pisa, Italy

Niklasson, L., Riveiro, M., Johansson, F., Dahlbom, A., Falkman, G., Ziemke, T., Brax, C., Kronhamn, T., Smedberg, M., Warston, H., and Gustavsson, P. M. (2008) [Extending The Scope of Situation Analysis](#), *Proceedings of the 11th International Conference on Information Fusion*, Cologne, Germany, June 30-July 3, pp. 454-461. ISIF - IEEE. ISBN: 978-3-00-024883-2

Johansson, U., König, R., Löfström, T., and Niklasson, L. (2008) [Increasing Rule Extraction Accuracy by Post-processing GP Trees](#), *IEEE Congress on Evolutionary Computation*, Hong Kong, China. pp. 3010-3015. IEEE Press. ISBN: 978-1-4244-1823-7.

Brax, C., Laxhammar, R., and Niklasson, L., (2008), [Approaches for automatically detecting behavioural anomalies in public areas using video surveillance data](#), *SPIE Europe – Defense and Security*, 15-18 September 2008, Cardiff, Wales, Proceedings of SPIE Volume: 7113, ISBN: 9780819473455

Brax, C., Niklasson, L., and Smedberg, M. (2008) [Finding behavioural anomalies in public areas using video surveillance data](#). *Proceedings of the 11th International Conference on Information Fusion*, Cologne, Germany, June 30-July 3, pp. 1655-1662. ISIF - IEEE. ISBN: 978-3-00-024883-2.

- König, R., Johansson, U., and Niklasson, L. (2008) [Using Genetic Programming to Increase Rule Quality](#). In *Proceedings of the Twenty-First International FLAIRS Conference (2008)*. Coconut Grove, Florida, USA: AAAI Press. pp 288-293, ISBN: 978-1-57735-365-2.
- Johansson, U., Löfström, T. and Niklasson, L. (2008), [Evaluating Standard Techniques for Implicit Diversity](#), *Pacific-Asia Conference on Knowledge Discovery and Data Mining*, Osaka, Japan, Lecture Notes in Artificial Intelligence 5012:613-622, Springer-Verlag, 2008. ISBN: 978-3-540-68124-3
- Dahlbom, A. and Niklasson, L. (2007), Trajectory Clustering for Coastal Surveillance, *Proceedings of the 10th International Conference on Information Fusion (FUSION 2007)*, Québec, Canada, July 9-12, ISBN: 978-0-662-45804-3.
- Niklasson, L., Riveiro, M., Johansson, F., Dahlbom, A., Falkman, G., Ziemke, T., Brax, C., Kronhamn, T., Smedberg, M., Warston, H. and Gustavsson P.M., (2007) A Unified Situation Analysis Model for Human and Machine Situation Awareness, *Lecture Notes in Informatics*, pp 105 – 110, Köllen Druck+Verlag GmbH, Bonn ISBN 978-3-88579-206-1
- König, R., Johansson, U., and Niklasson, L. (2007), Genetic Programming – a Tool for Flexible Rule Extraction, *IEEE Congress on Evolutionary Computation (CEC)*, p1304-1310, IEEE, ISBN: 1-4244-1340-0.
- Johansson, U., Löfström, T. and Niklasson, L., The Importance of Diversity in Neural Network Ensembles - An Empirical Investigation, *The International Joint Conference on Neural Networks*, IEEE Press, Orlando, FL, 2007. [CD-ROM]
- Johansson, U., König, R. and Niklasson, L., Inconsistency - Friend or Foe, *The International Joint Conference on Neural Networks*, IEEE Press, Orlando, FL, 2007. [CD-ROM]
- König, R., Johansson, U., and Niklasson, L. (2007), Instance ranking using ensemble spread. in *DMIN, The 2007 international conference on data mining*. pp.73-78, 24-28 jun 2007. Las Vegas Nevada, USA. ISBN: 1-60132-031-0
- König, R., Johansson, U. and Niklasson, L., (2007), The importance of representation languages when extracting estimation rules, *Proceedings of 24th Annual Workshop of the Swedish Artificial Intelligence Society*, pp. 136 – 146. ISSN: 0348-0542.
- Löfström, T., König, R., Johansson, Niklasson, L., Strand, M., & Ziemke, T., (2006). Benefits of Relating the Retail Domain to Information Fusion. In: *Proceedings of the 9th International Conference on Information Fusion*. IEEE ISIF, ISBN 0-9721844-6-5.
- Johansson, U., Löfström, T., König, R., Sönströd, C. and Niklasson, L., (2006), Rule Extraction from Opaque Models \* A Slightly Different Perspective, *6th International Conference on Machine Learning and Applications*, Orlando, FL, IEEE press, pp. 22-27, 2006.
- Johansson, U., Sönströd, C. and Niklasson, L., (2006), Explaining Winning Poker \* A Data Mining Approach, *6th International Conference on Machine Learning and Applications*, Orlando, FL, IEEE press, pp. 129-134, 2006
- Dahlbom, A. & Niklasson, L. (2006), Goal-Directed Hierarchical Dynamic Scripting for RTS Games, In *Proceedings of the Second Artificial Intelligence and Interactive Digital Entertainment Conference (AIIDE - 06)*, pp. 21-28. AAAI Press, Menlo Park, CA.

- Johansson, U., Löfström, T., König, R. and Niklasson, L., (2006), Genetically Evolved Trees Representing Ensembles, *8th International Conference on Artificial Intelligence and Soft Computing*, Zakopane, Poland, Lecture Notes in Artificial Intelligence, Springer-Verlag, pp. 613-622.
- Johansson, U., Löfström, T., König, R. and Niklasson, L., (2006), Introducing GEMS \* a Novel Technique for Ensemble Creation , *19th Florida Artificial Intelligence Research Society Conference (FLAIRS) 06*, Melbourne Beach, FL, AAAI Press, pp. 700-705.
- Johansson, U., Löfström, T., König, R. and Niklasson, L., (2006), Building Neural Network Ensembles using Genetic Programming, *The International Joint Conference on Neural Networks*, IEEE Press, Vancouver, Canada, pp. 2239- 2244.
- Johansson, U., Löfström, T., König, R. and Niklasson, L. (2006) Accurate Neural Network Ensembles Using Genetic Programming, *23rd Annual Workshop of the Swedish Artificial Intelligence Society*, Umeå, Sweden, pp. 117-126.
- Johansson, U., Löfström, T. and Niklasson, L. (2006), Accuracy on a Hold-out Set: The Red Herring of Data Mining, *23rd Annual Workshop of the Swedish Artificial Intelligence Society*, Umeå, Sweden, pp. 137-146.
- Johansson, U., König, R. and Niklasson, L., (2005), Automatically Balancing Accuracy and Comprehensibility in Predictive Modeling, *Proceedings of the 8th International Conference on Information Fusion*, CD-ROM, IEEE Catalog Number: 05EX1120C, ISBN: 0-7803-9287-6, 2005.
- Löfström, T., Johansson, U. and Niklasson, L.,(2004), Rule Extraction by Seeing Through the Model, *11th International Conference on Neural Information Processing (ICONIP)*, Calcutta, India, pp. 555 - 560
- Johansson, U., Sönströd, C., and Niklasson, L., (2004), Why Rule Extraction Matters , *Preceedings of the 8th International Conference on Artificial Intelligence and Applications (IASTED)*, Cambridge MA, USA, pp. 47 - 52
- Johansson, U., Niklasson, L. and König, R., (2004), Accuracy vs. Comprehensibility in Data Mining Models, *7th International Conference on Information Fusion (FUSION2004)*, Stockholm, Sweden.
- Johansson, U., König, R. and Niklasson, L., (2004), The Truth is There - Rule Extraction from Opaque Models Using Genetic Programming, *17th Florida Artificial Intelligence Research Society Conference (FLAIRS04)*, Miami, Florida, AAAI press pp. 658 - 662.
- Johansson, U., König, R. and Niklasson, L., (2003), Rule Extraction from Trained Neural Networks Using Genetic Programming, *13th International Conference on Artificial Neural Networks (ICANN)*, Istanbul, Turkey, pp. 13 - 16.
- Johansson, U., Sönströd, C., König, R. and Niklasson, L., (2003), Neural Networks and Rule Extraction for Prediction and Explanation in the Marketing Domain, *The International Joint Conference on Neural Networks (IJCNN)*, Portland, Oregon, USA, pp. 2866 - 2871.
- Hansson, A. and Niklasson, L. (2002), Modeling Grouping with Recursive Auto-Associative Memory, *24st Annual Conference of the Cognitive Science Society*, George Mason University, Virginia, USA, August 8-10, pp 417-422.
- Johansson, U. and Niklasson, L., (2002), Increased Performance with Neural Nets - An Example From the Marketing Domain, *Proceedings of the International Joint Conference on Neural Networks 2002*, Hawaii, May 12-17, IEEE Press, pp 1684 - 1689.
- Johansson, U. and Niklasson, L., (2002), Neural Networks - From Prediction to Explanation, *International Conference on Artificial Intelligence and Applications (IASTED)*, Malaga Spain, pp. 93 - 98.



Johansson, U. and Niklasson, L., (2001), Why Settle for Optimal Play When You can do Better?, *Proceedings of the International Conference on Application and Development of Computer Games in the 21st Century*, Hong Kong, November 22-23, pp. 130 - 136.

Johansson, U. and Niklasson, L., (2001), Predicting the impact of advertising: a neural network approach, *Proceedings of the International Joint Conference on Neural Networks*, Washington, DC, IEEE press, USA, pp. 1799 - 1804.

Niklasson, L. F., Engström, H. and Johansson, U., (2001), An Adaptive 'Rock, Scissors and Paper' Player Based on a Tapped Delay Neural Network, *Proceedings of the International Conference on Application and Development of Computer Games in the 21st Century*, Hong Kong, November 22-23, pp. 69 - 73 2001.

Linåker, F. and Niklasson, L., (2000), Time series segmentation using and adaptive resource allocating vector quantizing network based on change detection, *Proceedings of the International Conference on Neural Networks*, Como Italy, IEEE press, pp. 323-328.

Linåker, F. and Niklasson, L., (2000), Sensory-flow segmentation using a resource allocating vector quantizer, *Advances in statistical, structural and syntactical pattern recognition: Proceedings of the Joint IAPR International Workshops on Syntactical and Structural Pattern Recognition*, Alicante, Spain, Springer Verlag, pp 853 - 862

Linåker, F. and Niklasson, L., (2000), Extraction and Inversion of Abstract Sensory Flow Representations, *Proceedings of the 6th International Conference on the Simulation of Adaptive Behavior (SAB2000)*, Paris, France, MIT Press, pp 199-208.

Niklasson, L., (1999), Extended encoding/decoding of embedded structures using connectionist networks, *The Proceedings of the 9th International Conference on Artificial Neural Networks (ICANN 99)*, IEE press, pp 886 - 891.

Niklasson, L. and Bodén, M., (1999), Content, Context and Connectionist Networks, *The Proceedings of the 21st Annual Conference of the Cognitive Science Society*, Vancouver, Canada, August 1999, Lawrence Erlbaum Ass., pp 474 -479.

Bodén M. B. & Niklasson L. F., (1995), Features of distributed representations for tree-structures: A study of RAAM, In *Current Trends in Connectionism*, Lawrence Erlbaum Associates, pp 121 - 140.

Niklasson L. F. & van Gelder T., (1994), Can Connectionist Models Exhibit Non-Classical Structure Sensitivity?, *Proceedings of the Sixteenth Annual Conference of the Cognitive Society -94*, Atlanta, pp 664 - 669.

van Gelder T. & Niklasson L. F., (1994), Classicalism and Cognitive Architecture, *Proceedings of the Sixteenth Annual Conference of the Cognitive Society -94*, Atlanta, pp 905 - 909.

Niklasson L. F. & Sharkey N. E., (1993), The Miracle Mind Model, in *Connectionism in a Broad Perspective*, (Eds) Niklasson L. F. & Bodén M. B., Ellis Horwood, pp 13 - 24

Niklasson L. F., (1993), Structure Sensitivity in Connectionist Models, In *Proceedings of the Connectionist Models Summer School*, Erlbaum pp 162 - 169.

Niklasson L. F. & Sharkey N. E., (1992), Connectionism and the Issues of Compositionality and Systematicity, in *Proc. of the 11th European Meeting on Cybernetics and Systems Research*, (Ed) Robert Trappl, **Vol. 2**, World Scientific, pp 1367 - 1374

## Dissertations

Niklasson L. F. (1989), *Connectionsim and Automated Theorem Proving: Aspects of Representation and Experimentation*, MSc-dissertation, University of Exeter, UK, Department of Computer Science (126 pages).

Niklasson L. F. (1996), *Systematicity, the Scarlet Pimpernel of Cognitive Science*, PhD-thesis, University of Sheffield, UK, Department of Computer Science (231 pages).

## Book chapters

Niklasson L. F. & Sharkey N. E., (1997) Systematicity and Generalisation in Connectionist Compositional Representations, in *Neural Networks and a new 'AI'*, (Ed) Dorffner G., Thomson Computer Press, pp 215 - 232.

Niklasson L. F. and Bodén M. B., (1997) Representing Structure and Structured Representations in Connectionist Networks, *Neural Network Perspectives on Cognition and Adaptive Robotics*, (Ed) Browne, A., IOP Press, pp 20 - 50.

Ziemke, T., Boden, M. and Niklasson, L. (1997), Oil Spill Detection: A Case Study of Recurrent Artificial Neural Networks, *Neural Network Analysis, Architectures and Applications*, (Ed) Browne, A. IOP Press, pp 224 - 249.

## Popular scientific publications (not refereed)

Niklasson, L. and Ziemke, T. (1996), Lärande Datorer - Utopi Eller Verklighet?, *Ung Forskning*, December, 1996.

## Editorial work

Löfström, T., Johansson, U., Sönströd, C., König, R., and Niklasson, L., (eds) (2007). *Proceedings of the 24th Annual Workshop of the Swedish Artificial Intelligence Society*. University College of Borås, ISSN 0348-0542.

Malmgren, H., Borga, M. and Niklasson, L. F., (2000), *Artificial Neural Networks in Medicine and Biology - Proceedings of the ANNIMAB-1 conference*, Gothenburg, Sweden, Springer Verlag, London, UK.

Niklasson, L. F., Bodén M. B. and Ziemke. T. (Eds), (1998), *Proceedings of the 8th International Conference on Artificial Neural Networks (ICANN 98)*, Springer Verlag, London, UK, (1198 pages).

Niklasson L. F. & Bodén M. B. (Eds), (1995), *Current Trends in Connectionism*, Lawrence Erlbaum Associates, Hillsdale, NJ, USA, (382 pages).

Niklasson L. F. & Bodén M. B. (Eds), (1993), *Connectionism in a Broad Perspective: Selected Readings from the First Swedish Conference on Connectionism*, Ellis Horwood, London, England, (313 pages).

Bodén M. B. & Niklasson L. F. (Eds), (1993), *Artificial Intelligence Review - Special issue on Connectionism*, Vol. 7., No.5. Kluwer Academic Press, (100 pages).

1998 - 2013 Member of the International Editorial Board of *Connection Science*, Noel Sharkey (Editor-in-chief), University of Sheffield, UK, N.Sharkey@dcs.shef.ac.uk

### **Awards/grants**

- 1994 The Swedish Ministry of Education, Oil spill detection using ANNs, joint project with Ericsson Radar Electronics, Mölndal, Sweden. 300,000 SEK.
- 1995 The British Council, Strandvägen 57A, 115 23 Stockholm, The Swedish British Academic Cooperation Programme, 1995, Ref. no.: STO/980/3 AA. Joint Application with Prof. Noel E. Sharkey, University of Sheffield. £700, for Prof. Sharkey and 13,000 SEK for Niklasson.
- 1996 OKs Miljöstiftelse (OKs Environment Fund), Sandhamnsgatan 51, 115 90 Stockholm. Project: "Oil spill detection from radar imagery using artificial neural networks", 175,000 SEK (joint application with T. Ziemke).
- 1997 The Swedish Ministry of Education, Sales volume predictions using Artificial Neural Networks. A joint project with ICA Handlarnas AB (Jerker Norström, Manager Technical Development), S-171 93 Solna, Sweden, 607,000 SEK
- 1998 Swedish Research Council for Engineering Sciences, Project: Invited speakers for ICANN 98, reg. no. 292-97-997, 40,000 SEK.
- 1998 NUTEK, Project: Invited speakers for ICANN 98, proj. no.: P10419-1, 40,000 SEK.
- 1999-2002 KK-stiftelsen Kungsgatan 28, Box 3222, 103 64 Stockholm, Title: Establishment of a research platform for 'learning systems' at University of Skövde, Ref. no: 1507/97, Project Leader: Lars Niklasson, Other partners: ICA Handlarnas AB, Ericsson Microwave Systems, Astra Draco, NovaCast AB, Anders Lansner - Royal Inst. of Technology, Noel Sharkey - Univ. of Sheffield, David Fogel - San Diego. Budget: 10,000,000 SEK.
- 1999 NUTEK's AIS programme. Title: Implementation of BGA, CSP and Flip-Chip. Project Leaders: Per Carlsson (per.carlsson@ivf.se) and Per-Erik Tegehall (per-erik.tegehall@ivf.se), IVF, Other partners: IVF, ABB-Automation, Autoliv, Combitech Electronics, Ericsson Microwave Systems, Ericsson Radio Systems, Ericsson Telecom, Flextronics International, Partner Tech, Saab, Scania, Total budget: 6,000,000 SEK (about 300,000 to Skövde).
- 1999 NUTEK's AIS programme. Title: Bayesian ANNs. Project Leaders: Björn Levin (blevin@sics.se) and Anders Holst (aho@sics.se), Swedish Institute of Computer Science, Other partners: Chalmers Inst. of Technology, Mitthögskolan, SCA, Ericsson, NovaCast, Telia, Astra, NDC, Analog Software, ICA Handlarnas AB, EKA Chemicals, Budget: 6,000,000 SEK (about 400,000 to Skövde).
- 2004 VINNOVA's National Aeronautics Research Programme (NFFP3+). Flying sensors for ground surveillance. Project Leader: Håkan Warston, Ericsson Microwave Systems. Other partners: Chalmers Institute of Technology. Total budget: 2,400,000 SEK (600,000 SEK to Skövde).
- 2004-2006 Establishment of usability labs for Computer Games development. Project leader: Lars Niklasson, Total budget 5,8 MSEK. Funded by Tillväxt Skaraborg, Skövde Kommun and University of Skövde.

- 2005-2011 KK-stiftelsen, Research platform information fusion. Project Leader: Sten F. Andler, Högskolan i Skövde, I am a member of the executive committee. Total budget (KK 36,000,000 SEK, Collaborating Companies 50,000,000 SEK, Högskolan 28,000,000 SEK). I am also responsible for 3 projects within the profile, which makes up about 30 per cent of the whole project.
- 2006-2007 EU DISTRICT project. Interreg IIC SER3VG, Serious Games Cluster 187.000 Euro. Collaboration with University of Coventry, UK. I am the project leader. Högskolan 150.000 Euro
- 2007 Project leader for, Edutainment and Training Initiative Sweden. 400 000 SEK for financing of a pre-study within serious gaming and how that relates to Modeling and Simulation, Funded by, Tillväxt Skaraborg och Örebro Universitet
- 2007-2008 Scientific coordinator for “Conceptual production plant development”, FACTS, within the Manufacturing Engineering Research Area (MERA) project, funded by VINNOVA.
- 2009-2013 Project participant National Aeronautics Research Programme NFFP5. My funding covers an industrial PhD. About 600 000 SEK / year. Funded by VINNOVA
- 2011-2021 Main applicant and project leader for creating a research environment at the University of Skövde, Funded by the Knowledge Foundation (KK-stiftelsen). About 200 MSEK over the period.
- 2013 Applicant and project leader for a project to identify and describe the life-cycle process for research projects – from ideas to commercial growth, including forming a holding company and to support a practical commercialization case. Amount 500 000 SEK for the project period 2013-04-01 – 2013-08-31. Funded by Innovation Office West (sw. Innovationskontor Väst, IKV).
- 2013-2015 Co-author (in collaboration with colleagues at the University of Borås) of an application for funding collaboration between the Universities of Skövde and Borås. Approved amount 17 MSEK, of which half is reserved for Skövde. Funded by the Västra Götaland region. Member of the steering committee for the project.
- 2013 Applicant and project leader for a project to further develop collaboration between academia and the surrounding society. Approved amount 153 000 SEK for Jönköping University. Funded by Vinnova.
- 2014-2015 Applicant and project leader for a project to further develop collaboration between academia and the surrounding society, in cooperation with five other Swedish Universities (University of Borås, Halmstad University, University West, University of Skövde, Malmö University). Project name: *Collaboration Arenas (CARENA)*. Approved amount 9 MSEK for the consortium, 1,5 MSEK for Jönköping University. Funded by Vinnova.
- 2014-2015 Project member of a project to further develop collaboration between academia and the surrounding society, in cooperation with eight other Swedish Universities (Royal Institute of Technology, Uppsala University, Linköping University, Umeå University, Lund University, Swedish University of Agricultural Science, Mälardalen University). Project name: *Kunskap och Lärande om Strategisk Samverkan (KLOSS), Knowledge and Learning about Strategic Collaboration*. Approved amount 9 MSEK for the consortium, 1 MSEK for Jönköping University. Funded by Vinnova.

- 2014-2017 Applicant and project leader for a project to further develop research collaboration between academia and industry. Approved amount 5 MSEK to the Jönköping University. Funded by the Regional Development Council of Jönköping County.
- 2015-2016 Applicant and project leader for a project to support innovation development from research. Amount 1 400 000 SEK for the project period 2014-01-01 – 2015-12-31. Funded by Innovation Office West (sw. Innovationskontor Väst, IKV). The project resulted in employment of an innovation advisor shared between Jönköping University and Science Park Jönköping.
- 2015-2016 Applicant and project leader for a project to further develop collaboration between academia and the surrounding society, in cooperation with six other Swedish Universities (University of Lund, University of Borås, Halmstad University, University West, University of Skövde, Malmö University and Swedish University for Agricultural Sciences). Project name: *Increasing Collaborative Capacity (ICECAP)*. Approved amount 12 MSEK for the consortium, 1,7 MSEK for Jönköping University. Funded by Vinnova.
- 2015-2018 Applicant and project leader for a project to further develop research collaboration between academia and industry. Approved amount 5 MSEK to the Jönköping University. Funded by the Regional Development Council of Jönköping County.
- 2015 Applicant and project leader for a project to further analyze strategies for collaboration between Jönköping University and the external society, and their internal implementation. Approved amount 2.8 MSEK to the Jönköping University. Funded by Vinnova.

### **Lecturing experiences**

**Pascal, using Jackson Structured Programming (JSP)**, Category: Lectures, Level: 1st year BSc, 10 weeks full-time studies (87-92)

**Construction of a database management system using Pascal**, Category: Practical demonstration and supervision, Level: 2nd year BSc, 3 weeks full-time studies (87-90)

**Using C as host language for SQL statements, with the Oracle DBMS**, Category: Practical demonstration and supervision, Level: 2nd year BSc, 1 week full-time studies (88-91)

**Using C as host language for SQL statements, with the Oracle DBMS**, Category: Practical demonstration and supervision, Level: 3rd year BSc, 3 weeks full-time studies (90/91)

**Knowledgebase systems**, Category: Lectures and Supervision, Level: 3rd year BSc, 5 weeks full-time studies (91-94)

**Logic programming using Prolog**, Category: Lectures, Level 3rd year BSc, 2 weeks full-time studies (93-95)

**AI: a modern approach**, Category: Lectures, Level: 3rd year BSc, 8 weeks full-time studies (95-98).

**Connectionism/AI**, Category: Lectures, Level: MSc, 6 weeks full-time studies (93-02)

**Cognitive Science IV**, Category: Lectures, Level 3rd year BSc, 5 weeks full-time studies (96-01)

**Sub-symbolic cognition**, Category: Lectures, Level 3rd year MSc, 5 week full-time studies (96-98).

For further details on this course contact Dr. Arne Jönsson, In charge of the Cognitive Study Programme, Department of Computer and Information Science, Linköping University, Sweden.

### **Course development**

- 1990/91 Pascal using JSP. Duration: 10 weeks full-time studies. The main part of my development was to extend the locally produced course material. Level: 1st year BSc.
- 1994/95 Connectionism/AI. University of Skövde, Sweden. Duration: 6 weeks full-time studies. The focus of the course was on different aspects on Connectionism/AI, e.g., philosophical, biological, psychological, mathematical and practical implications of Connectionism and AI. Level: MSc. Examiner.
- 1995/96 AI: a modern approach. University of Skövde, Sweden. Duration: 8 weeks full-time studies. The focus of the course was the design of rational agents. Level: 3rd year BSc students. Examiner.
- 1995/96 Final Year Projects. University of Skövde, Sweden. Duration: 20 weeks full-time studies. The focus of this course was to allow the students to work with some 'real-life' problems in a scientific manner. Level: 3rd year BSc computer science students. Examiner.
- 1996/97 Cognitive Science IV, University of Skövde Sweden. Duration: 5 weeks full-time studies. The focus of the course is to give cognitive science students insight to the relation between cognitive science/AI/computer science. Level: 2nd year BSc cognitive science students. Examiner
- 1996/97 Sub-symbolic cognition, Linköping University, Duration: 5 weeks full-time studies. The focus of the course was to explain the differences and relations between a symbolic view on cognition (computer metaphor for mind) and the connectionist alternative (the brain metaphor for mind). Level: 3rd year MSc cognitive science students.

### **Supervision BSc Dissertations**

I have acted as supervisor and examiner for about 120 BSc dissertations since 1994.

### **Supervision MSc Dissertations**

- 1994 Tom Ziemke, A Connectionist Approach to Doppler Radar-Based Detection of Oil Spills on Water, Department of Computer Science, University of Skövde, F5B:18
- 1995 Anders Hermansson, Using Recurrent Artificial Neural Networks to Control Autonomous Mobile Robots, Department of Computer Science, University of Skövde, F5B:19
- 1995 Hans Sörensen, Compositional Representations for Holistic Computation, Department of Computer Science, University of Skövde, F5B:19A

- 1995 Mattias Johansson, *Classifying Text Using Artificial Neural Networks*, Department of Computer Science, University of Skövde, F5B:20
- 1996 Christoph Gilde, *Time Series Analysis and Prediction Using Recurrent Gated Experts*, Department of Computer Science, University of Skövde
- 1997 Fredrik Linåker, *Prototype Extraction and Learning Using Prototypes in an Artificial Neural Network*, Department of Computer Science, University of Skövde, HS-IDA-MD-97-09
- 1998 Alistair Chalk, *Prediction of Protein Secondary Structure - by Incorporating Biophysical Information into Artificial Neural Networks*, Department of Computer Science, University of Skövde, HS-IDA-MD-98-003
- 2000 Christoffer Brax, *Recurrent Neural Networks for Time-Series Prediction*, Department of Computer Science, University of Skövde, HS-IDA-MD-00-003
- 2000 Andreas Hansson, *Sequence Processing from a Connectionist View*, Department of Computer Science, University of Skövde, HS-IDA-MD-00-004
- 2001 Niklas Torstensson, *A knowledge-based grapheme-to-phoneme conversion for Swedish (together with Prof. Antonis Botinis, Dept. of Language, University of Skövde, Sweden)*, HS-IDA-MD-02-002.
- 2005 Fredrik Johansson, *Prediktering av fiendeintention, baserat på bayesiansk hypotesprövning, (together with Dr. Mikael Johannesson)*, University of Sövde, HS-IKI-MD-05-302.

## **Supervision Licentiate, MPhil and PhD<sup>1</sup>**

### *MPhil and licentiate diploma*

- 2004 MPhil primary supervisor (main supervisor, Prof. Noel E. Sharkey, Univ. of Sheffield) for Roger Eriksson, *Evolutionary Global-Local Optimization in Dynamic Environments*, Department of Computer Science University of Sheffield, UK.
- 2004 Licentiate primary supervisor (main supervisor Prof. Tom Ziemke, University of Linköping and University of Skövde) for Ulf Johansson, University of Borås, *Rule Extraction - the Key to Accurate and Comprehensible Data Mining Models*, University of Linköping, Thesis no: 1095.
- 2005 Licentiate primary supervisor for Andreas Hansson (main supervisor Prof. Tom Ziemke, examiner for University of Linköping, Sweden), University of Skövde, *Increasing the Storage Capacity of Recursive Auto-Associative Memory by Segmenting Data*, University of Linköping, Thesis no: 1191.
- 2009 Licentiate main supervisor for Rikard König, University of Borås. *Predictive Techniques and Methods for Decision Support in Situations with Poor Data Quality*. Studies from the School of Science and Technology at Örebro University; 5
- 2011 Licentiate co-supervisor (main supervisor Associate Professor Göran Falkman, University of Skövde) for Rikard Laxhammar, Industrial PhD, SAAB Security and Defence Solutions, *Anomaly detection in trajectory data for surveillance applications*, Studies

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<sup>1</sup> Co-supervisor: Assisting a main or a primary supervisor. Main supervisor: Formally responsible for the student's progress. Primary supervisor: In practise responsible for the student's progress.

- from the school of science and technology at Örebro university; 19, Örebro University, <http://urn.kb.se/resolve?urn=urn:nbn:se:oru:diva-17235>
- 2011 Licentiate main supervisor (primary supervisor Per Backlund) for Anna-Sofia Alklind Taylor, University of Skövde, *Coaching by gaming : an instructor perspective of game-based vocational training*, Studies from the school of science and technology at Örebro university; 20, Örebro University, <http://www.diva-portal.org/smash/record.jsf?searchId=1&pid=diva2:474545>
- 2011 Licentiate main supervisor for Tina Erlandsson, Industrial PhD, Saab Aeronautics, *Situation analysis for fighter aircraft combat survivability*, Studies from the school of science and technology at Örebro university; 23, Örebro University, <http://www.diva-portal.org/smash/record.jsf?searchId=2&pid=diva2:463941>
- 2012 Licentiate co-supervisor (main supervisor Associate Professor Göran Falkman) for Tove Helldin, University of Skövde, *Human-Centred Automation with Application to the Fighter Aircraft Domain*. Studies from the school of science and technology at Örebro university; 24, Örebro University <http://oru.diva-portal.org/smash/record.jsf?pid=diva2:504571>
- 2013 Licentiate main supervisor for Erik Johansson (in cooperation with primary supervisor Mats Jägstam, University of Skövde), Industrial PhD, BAE Systems, *Decision Support Systems for Tactical Level Maintenance Planning*, Studies from the school of science and technology at Örebro university.
- 2013 Licentiate main supervisor for Björn Berg Marklund (in cooperation with primary supervisor Per Backlund, University of Skövde). *Games in Formal Educational Settings*, Informatics, No 1, 2013, University of Skövde. <http://www.diva-portal.org/smash/record.jsf?searchId=4&pid=diva2:662703>

#### *PhD diploma*

- 2000 PhD co-supervisor (main supervisor, Prof. Noel E. Sharkey, Univ. of Sheffield) for Tom Ziemke, *Situated Neuro-Robotics and Interactive Cognition*, Department of Computer Science, University of Sheffield, UK
- 2002 PhD co-supervisor (main supervisor Prof. Peter Gärdenfors, University of Lund) for Mikael Johannesson, *Geometric models of similarity*, Cognitive Studies, University of Lund, Sweden.
- 2003 PhD primary supervisor (main supervisor, Prof. Noel E. Sharkey, Univ. of Sheffield) for Fredrik Linåker, *Unsupervised On-line Data reduction for Memorisation and Learning in Mobile Robotics*, Department of Computer Science, University of Sheffield, UK.
- 2007 PhD primary supervisor (main supervisor Prof. Tom Ziemke, University of Linköping and University of Skövde) for Ulf Johansson, Högskolan i Borås. *Obtaining Accurate and Comprehensible Data Mining Models - An Evolutionary Approach*, Linköping Studies in Science and Technology, Dissertation No. 1086
- 2011 PhD primary supervisor (main supervisor Prof. Phil Moore, De Montfort University, UK) for Per Gustavsson, Industrial PhD with Saab SDS. *Modelling, Formalising and Implementing Intent in Command and Control Systems*, De Montfort University.



- 2011 PhD main supervisor for Anders Dahlbom, within the Information Fusion research program. *Petri Nets for Situation Recognition*, Örebro Studies in Technology, Örebro University, ISSN 1650-8580; 44, <http://oru.diva-portal.org/smash/record.jsf?searchId=1&pid=diva2:384609>
- 2011 PhD main supervisor for Christoffer Brax, Industrial PhD with Saab EDS, within the Information Fusion research program. *Anomaly Detection in the Surveillance Domain*, Örebro Studies in Technology, Örebro University, ISSN 1650-8580; 50. <http://urn.kb.se/resolve?urn=urn:nbn:se:oru:diva-16373>
- 2014 PhD co-supervisor for Rikard Laxhammar, Industrial PhD, SAAB Security and Defence Solutions (main supervisor Göran Falkman, University of Skövde). *Conformal Anomaly Detection*, University of Skövde - Dissertation Series 3 (2014). ISBN: 978-91-981474-2-1, <http://his.diva-portal.org/smash/record.jsf?searchId=1&pid=diva2:690997>
- 2014 PhD main supervisor for Rikard König, Högskolan i Borås. *Enhancing genetic programming for predictive modeling*, Örebro University studies in Technology, ISSN 1650-8580. <http://oru.diva-portal.org/smash/record.jsf?searchId=1&pid=diva2:689868>
- 2014 PhD main supervisor för Tina Erlandsson, Industrial PhD, SAAB Aeronautics. *A combat survivability model for evaluating air mission routes in future decision support systems*. Örebro University studies in Technology, ISSN 1650-8580. <http://oru.diva-portal.org/smash/record.jsf?searchId=2&pid=diva2:689886>

#### *Supervision of parts of the process*

- 2012-2013 PhD co-supervisor for Patrick Gabrielsson (in cooperation with main supervisor Ulf Johansson, University of Borås). Was discontinued when I moved to Jönköping University.
- 2012-2013 PhD co-supervisor for Shirin Tavera (in cooperation with main supervisor Håkan Sandell, University of Borås). Was discontinued when I moved to Jönköping University.
- 2009-2013 PhD main supervisor for Anna-Sofia Alklind Taylor (in cooperation with primary supervisor Per Backlund, University of Skövde). Was discontinued when I moved to Jönköping University.

#### *Current supervision*

I currently do not supervise any PhDs.

### **Academic leadership**

- 1993-2003 Member of the Board, Department of Computer Science, University of Skövde, Sweden.
- 1995-1997 Member of the Executive Board, Centre for Intelligent Automation, University of Skövde, Sweden.
- 1997-2002 Member of the Research Committee, University of Skövde, Sweden
- 1997-2000 Member of the Executive Board, University of Skövde, Sweden

- 1997-2002 Member of the Executive Board and treasurer, European Neural Network Society (ENNS)
- 1997-1999 Member of the Board, Institution of the Electrical Engineers, Professional Group A9, Neural Computation, London, UK
- 1998-2002 Member of the Board, Swedish Neural Network Society (later the Swedish Society for Learning Systems, SLS)
- 2000-2001 Member of a project group (under the executive board) for the recruitment of a new vice-chancellor at University of Skövde (other members, Marianne Nivert (ceo, Telia), Jan-Crister Persson (ceo, Institutet för verkstadsteknisk forskning) and Ingalena Wittbeck (head of personnel, University of Skövde))
- 2000-2008 Member of the Board, Swedish AI Society
- 2003-2004 Course in academic leadership (for department heads), University of Skövde
- 2004-2005 Course in academic leadership (for university officials), National Agency for Higher Education
- 2005-2010 Member of the Executive Board, Research Profile on Information Fusion, University of Skövde
- 2009 Course in leadership (for university management), External Consultant hired by the University of Skövde.
- 2010 Course in PhD-supervision (3 hp), University of Skövde, Sweden
- 2010 Continuation course in PhD-supervision (3 hp), University of Skövde, Sweden
- 2010 Main applicant for an application to the Swedish National Agency for Higher Education, for the right to issue PhD diplomas within Information Technology, at the University of Skövde. The application was approved in July 2010.
- 2011-2012 Chairman of the council for research education within Information Technology, University of Skövde.
- 2012- Member of the advisory board for the CAISR research profile at the University of Halmstad (financed by the KK-foundation).
- 2013 Course in the legal aspects of PhD-education. A one day course given by Anders Stening.
- 2013- Member of a steering committee for a 10-year project for development of an innovation environment for building houses with wood and glass (Smart Housing Småland), funded by Vinnova.
- 2015-2016 Member of a steering committee for developing the Regional Innovation Strategy for Jönköping county.

### **Other**

- 1998- 2013 Member of the Executive Board, Gothia Science Park AB, Skövde, Sweden
- 2010 Winner of Skövde Municipality award "Engagement 2010" for the work to promote collaboration between the University of Skövde and the surrounding society. Award 20 000 SEK.

2012- 2013 Adjunct member of the Executive Board, Industrial Development Center West Sweden AB.