

Curriculum vitae for Jonas Gamalielsson

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Date of birth: July 30, 1969

Nationality: Swedish

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Employments:

- University of Skövde (2001-). PhD candidate in Bioinformatics. Registered at the university of Exeter from October 2002 to December 2005, and at Heriot-Watt university (Edinburgh) from January 2006. The PhD project is focused on methods for assessing the interestingness of patterns derived by mining life science data.
- Allgon AB (1995-2001). Employment as an RF engineer at the research group of Allgon Mobile Communications in Åkersberga. Tasks comprised electromagnetic testing and development of new cellular telephone antenna concepts, but also development of software for instrument control, data acquisition, data analysis and electromagnetic simulations. Jonas is first inventor of two patented antenna devices. On leave of absence from September 1997 to July 2001, only working two months every summer.
- SAAB AB (1990-1995). Employment as a test engineer at the department of electromagnetic effects at SAAB Military Aircraft in Linköping. Tasks comprised electromagnetic testing of subsystems and aircraft, and development of software for instrument control, data acquisition and data analysis.

Degrees:

- MSc Computer science (2000-2001). New Generations Representations (50p) at the university of Skövde. Specialised in artificial intelligence and Bioinformatics. Masters thesis was titled "Models for Protein Structure Prediction by Evolutionary Algorithms".
- BSc Computer science (1997-2000). Program for Software Engineering (120p) at the university of Skövde. Specialised in artificial intelligence and in particular evolutionary computation. Degree thesis was titled "Applicability of a Genetic Algorithm when Optimizing a Planar Inverted F Antenna".
- Electronics engineer, 4-year upper secondary technical school in Mariestad and Skövde (1985-1989).

Pedagogic education:

- University pedagogy 5p (University of Skövde)

Examination responsibility (University of Skövde):

- Algorithms 5p (2005,2004,2003)
- Algorithms and Data structures 5p (2004, 2005)
- Genetic Algorithms and Genetic Programming 5p (2006,2005,2003)

Course responsibility (University of Skövde):

- Algorithms 5p (2005,2004,2003)
- Algorithms and Data structures 5p (2004,2005)
- Genetic Algorithms and Genetic Programming 5p (2006,2005,2003)

Lecturing (University of Skövde):

- Algorithms 5p (2004,2003)
- Algorithms and Data structures 5p (2004)
- Bioinformatics - Algorithms 5p (2003,2002)
- Bioinformatics - D-level 5p (2003,2005)
- Bioinformatics - Introduction 5p (2003)
- Genetic Algorithms and Genetic Programming 5p (2006,2005,2003)

Tutoring (University of Skövde):

- Abstract Data Types 3p (2002,2001).
- Algorithms 5p (2004,2003,2002)
- Algorithms and Data structures 5p (2004)
- Bioinformatics - Algorithms 5p (2003,2002,2001)
- Database Systems 4p (2001,2000)
- Database Systems - Modelling 3p (2000)
- Discrete mathematics 5p (1998)
- Genetic Algorithms and Genetic Programming 5p (2006,2005,2003,2002,2001,2000)

Supervised projects (University of Skövde):

- 10 MSc thesis projects (D-level), 2 BSc thesis projects (C-level) and 2 B-level projects, during 2002-2006.

Publications:

Theses

- Gamalielsson, J. (2001). *Models for Protein Structure Prediction by Evolutionary Algorithms*, HS-IDA-MD-01-005, MSc-thesis, University of Skövde, Sweden, October 2001.

- Gamalielsson, J. (2000). *Applicability of a Genetic Algorithm when Optimizing a Planar Inverted F Antenna*, HS-IDA-EA-00-202, BSc-thesis, University of Skövde, Sweden, August 2000.

Technical reports

- Gamalielsson, J. and Olsson, B. (2005). *GOSAP: Gene Ontology based Semantic Alignment of Biological Pathways*, HS-IKI-TR-05-005, Technical report, University of Skövde, Sweden, December 2005.
- Gamalielsson, J., Olsson, B. and Nilsson, P. (2005). *A Gene Ontology based Method for Assessing the Biological Plausibility of Regulatory Hypotheses*, HS-IKI-TR-05-004, Technical report, University of Skövde, Sweden, December 2005.
- Gamalielsson, J. (2005). *Thesis Methods: Assessing the Biological Plausibility of Regulatory Hypotheses*, HS-IKI-TR-05-001, Technical report, University of Skövde, Sweden, February 2005.
- Gamalielsson, J. (2003). *Methods for Assessing the Interestingness of Rules Induced from Microarray Gene Expression Data*, HS-IDA-TR-03-005, Technical report, University of Skövde, Sweden, September 2003.
- Gamalielsson, J. and Olsson, B. (2003). *On the Robustness of Algorithms for Clustering of Gene Expression Data*, HS-IDA-TR-03-004, Technical report, University of Skövde, Sweden, August 2003.

Book chapters

- Gamalielsson, J. and Olsson, B. (2005). *Evaluating Protein Structure Prediction Models with Evolutionary Algorithms*, In Grana, M., Duro, R., d'Anjou, A., and Wang, P.P., Information Processing with Evolutionary Algorithms - From Industrial Applications to Academic Speculations. Springer-Verlag.
- Narayanan, A., Cheung, A., Gamalielsson, J., Keedwell, E. and Vercellone, C. (2005). *ANNs and GAs for Reducing the Dimensionality of Gene Expression Data*, In Seiffert, U.; Jain, L. C.; Schweizer, P. (Eds.) Bioinformatics using Computational Intelligence Paradigms, Studies in Fuzziness and Soft Computing Vol. 176, Springer-Verlag, 2005, 191-216.

Journal papers

- Lubovac, Z., Gamalielsson, J. and Olsson, B. (to appear). *Combining functional and topological properties to identify core modules in protein interaction networks*, Accepted for PROTEINS: Structure, Function and Bioinformatics (accepted).
- Gamalielsson, J. and Olsson, B. (2004). *On the (lack of) robustness of gene expression data clustering*. WSEAS Transactions on Biology and Biomedicine **1**(2):198-204.
- Narayanan, A., Keedwell, E., Gamalielsson, J. and Tatineni, S. (2004). *Single Layer Artificial Neural Networks for Gene Expression Analysis*, Neurocomputing **61**:217-240.
- Rowell, C. and Gamalielsson, J. (1997). *CGAMAS: a post-processing tool for microwave data files*. IEE Colloquium on Effective Microwave CAD (Ref. No: 1997/377), pages 4/1-4/4.

Conference papers

- Lubovac, Z., Olsson, B. and Gamalielsson, J. (to appear). *Weighted Clustering Coefficient for Identifying Modular Formations in Protein-Protein Interaction Networks*. In proceedings of the third International Conference on Bioinformatics and Computational and Systems Biology, Prague, August 25-27, 2006.
- Gamalielsson, J. and Olsson, B. (to appear). *Deriving Hypothetical Pathways by an Evolutionary Approach* (tentative). (manuscript in preparation)
- Gamalielsson, J. and Olsson, B. (to appear). *GOSAP: Gene Ontology based Semantic Alignment of Biological Pathways*. (manuscript in preparation)
- Gamalielsson, J., Nilsson, P and Olsson, B. (to appear). *A Gene Ontology based Method for Assessing the Biological Plausibility of Regulatory Hypotheses*. In Proceedings of the 2:nd International Workshop on Bioinformatics Research and Applications (IWBR 2006), Reading, Great Britain, May 2006.
- Lubovac, Z., Olsson, B. and Gamalielsson, J. (2005). *Combining topological properties and domain knowledge reveals functional modules in protein interaction networks*, In Proceedings of the 2:nd International Conference on Algorithms and Computational Methods for Biochemical and Evolutionary Networks (CompBioNets), Lyon, France, December 2005.
- Lubovac, Z., Gamalielsson, J., Olsson, B. and Lindlöf, A. (2005). *Exploring protein networks with a semantic similarity measure*, In Proceedings of the 6:th International Symposium on Computational Biology and Genome Informatics, USA, July 2005.
- Gamalielsson, J. and Olsson, B. (2002) *Using Evolutionary Algorithms to Evaluate Simplified Models for Protein Structure Prediction*, In Caulfield, H.J., Chen, S-H., Cheng, H-D., Duro, R., Honavar, V., Kerre, E.E., Lu, M., Grana Romay, M., Shih, T.K., Ventura, D., Wang, P.P., and Yang, Y. (Eds.), Proceedings of The Sixth Joint Conference on Information Sciences, 602-605. Association for Intelligent Machinery.

Posters

- Gamalielsson, J., Olsson, B., Laurio, K., Nilsson, P., Svensson, T. and Jirstrand, M. (2006). *GOSAP: Gene Ontology based Semantic Alignment of Biological Pathways*, Bioinformatics 2006, Aarhus, Denmark, June 15-18 2006.
- Gamalielsson, J. (2003). *Methods for Assessing the Interestingness of Rules Induced from Microarray Gene Expression Data*, 4th Swedish Bioinformatics Workshop, Linköping, Sweden, October 24-25 2003.

- Gamalielsson, J. (2002). *Assessing the Reliability of Gene Expression Clusterings*, Bioinformatics 2002, Bergen, Norway, April 4-7 2002.

Patents:

- *Dual band antenna*, where J. Gamalielsson is first inventor. Approved patent (PCT WO 01/11899)
- *Antenna device for a hand-portable radio communication unit*, where J. Gamalielsson is first inventor. Approved patent (PCT WO 99/03166, US pat 6388626)
- *Biological plausibility determination utilizing the matching of regulatory hypotheses to templates*, where J. Gamalielsson is first inventor. Provisional patent (US60/594,234).

Collaborations:

- The "HÖG 2003" project grant funded by the Knowledge foundation: "Model-based data mining as support for pharmaceutical research focused on disease models and drug discovery" in collaboration with Arexis AB and InNetics AB.
- Member of the "Gene Discovery Network", initiated in March 2006. A collaboration between Göteborg University and University of Skövde.

Referee jobs:

- IEEE Transactions on Computational Biology and Bioinformatics, April 2006.