Curriculum Vitae for Finn Årup Nielsen

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1 Education

1. Ph. D. from the Technical University of Denmark, 2002 September.
2. Civilingeniør (Master of Science in Engineering) from the Technical University of Denmark, 1996 February.
3. Teknikumingeniør (Bachelor of Science in Electrical Engineering) from Engineering College of Aarhus, 1993 June.
4. Svagstrømsteknisk værkstedskursus (electronics course), Viborg Tekniske Skole, 1989 December.
5. Matematisk-fysisk Studentereksamen, Viborg Amtsgymnasium, 1989 July.

2 Employment

1. Assistent research professor, Informatics and Mathematical Modelling, Technical University of Denmark, 2001 May – 2002.
2. Ph. D. student, Informatics and Mathematical Modelling, Technical University of Denmark, 1998 April – 2001 May
3. Research Assistent, Department of Mathematical Modelling, Technical University of Denmark, 1996 April – 1998 March.
4. Trainee, Lyngsø Manufacturing, Aars, 1990 Jan – 1990 July.

3 Scientific papers

3.1 Peer-reviewed journal articles

1. Lars Kai Hansen, Finn Årup Nielsen, Jan Larsen, *Exploring fMRI data for periodic components*, Artificial Intelligence in Medicine, **25**(1):35–44, 2002.
2. Daniela Balslev, Finn Årup Nielsen, Sally A. Frutiger, John J. Sidtis, Torben B. Christiansen, Claus Svarer, Stephen C. Strother, David A. Rottenberg, Lars Kai Hansen, Olaf B. Paulson, Ian Law, *Cluster analysis of activity-time series in motor learning*, Human Brain Mapping, **15**(3):135–145, 2000 March.
3. Finn Årup Nielsen, Lars Kai Hansen, *Modeling of activation data in the BrainMap™: Detection of outliers*, Human Brain Mapping, **15**(3):146–156, 2002 March.
4. Lars Kai Hansen, Finn Årup Nielsen, Stephen C. Strother, Nicholas Lange, *Consensus Inference in Neuroimaging*, NeuroImage, **13**(6):1212–1218, 2001 June.
5. David M. Pennock, Steve Lawrence, C. Lee Giles, Finn Årup Nielsen, *The Real Power of Artificial Markets*, Science, **291**(5506):987–988, 2001 February 9.

6. Steve Lawrence, Frans M. Coetzee, Eric Glover, David Pennock, Gary William Flake, Finn Årup Nielsen, Robert Krovetz, Andries Kruger, C. Lee Giles, *Persistence of Web References in Scientific Research*, IEEE Computer, **34**(2):26–31, 2001 February.

7. Cyril Goutte, Finn Årup Nielsen, Lars Kai Hansen, *Modelling the heamodynamic response in fMRI with smooth FIR filters*, IEEE Transactions on Medical Imaging, **19**(12):1188+, 2000 December.

8. Nicholas Lange, Stephen C. Strother, Jon R. Anderson, Finn Årup Nielsen, Andrew Peter Holmes, Thomas Kolenda, Robert Savoy, Lars Kai Hansen, *Plurality and Resemblance in fMRI Data Analysis*, NeuroImage, **10**(3):282–303, 1999 September.

9. Lars Kai Hansen, Jan Larsen, Finn Årup Nielsen, Stephen C. Strother, Egill Rostrup, Robert Savoy, Claus Svarer, Olaf B. Paulson, *Generalizable Patterns in Neuroimaging: How Many Principal Components*, NeuroImage, **9**(5):534–544, 1999 May.

10. Cyril Goutte, Peter Toft, Egill Rostrup, Finn Årup Nielsen, Lars Kai Hansen, *On Clustering fMRI Time series*, NeuroImage **9**(3):298–310, 1999 March.

3.2 Conference and workshop articles and abstracts

1. Andrew C. N. Chen, Finn Årup Nielsen, Lars Kai Hansen , *Neuroimaging of human pain and virtual reality modelling*, Advances in Clinical Neurophysiology (Supplements to Clinical Neurophysiology), Chapter 24, Volume 54: 163-169, Editors: R. C. Reisin, M. R. Nuwer, M. Hallett, C. Medina, Elsevier Science, 2002.

2. Finn Årup Nielsen, Lars Kai Hansen, *Finding related functional neuroimaging volumes*, NeuroImage, **16**(2), 2002 June, Presented at the 8th International Conference on Functional Mapping of the Human Brain, June 2–6, 2002, Sendai, Japan. Available on CD-Rom

3. Finn Årup Nielsen, Lars Kai Hansen, *Automatic anatomical labeling of Talairach coordinates and generation of volumes of interest via tbe BrainMap database*, NeuroImage, **16**(2), 2002 June, Presented at the 8th International Conference on Functional Mapping of the Human Brain, June 2–6, 2002, Sendai, Japan. Available on CD-Rom

4. David M. Pennock, Steve Lawrence, C. Lee Giles, Finn Årup Nielsen, *Extracting collective probabilistic forecasts from web games*, Proceedings of the 7th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD-2001), San Francisco, CA, 2001 August.

5. Finn Årup Nielsen, Lars Kai Hansen, Ulrik Kjems, *Modeling of location in the BrainMap database: Detection of outliers*, HBM2001, Brighton, UK, 2001 June 10-14, NeuroImage, **13**(6, part 2):S211, 2001 June

6. Finn Årup Nielsen, Lars Kai Hansen, *Author cocitation analysis of articles from "NeuroImage"*, 7th Annual Meeting of the Organization for Human Brain Mapping (HBM2001), Brighton, UK, 2001 June 10-14, NeuroImage **13**(6, part 2):S212, 2001 June.

7. Finn Årup Nielsen, Cyril Goutte, Lars Kai Hansen, *Modelling the fMRI response using smooth FIR filters*, HBM2001, Brighton, UK, 2001 June 10-14, NeuroImage, **13**(6, part 2):S210, 2001 June.

8. Lars Kai Hansen, Finn Årup Nielsen, Matthew George Liptrot, Stephen C. Strother, Nicholas Lange, Anders Gade, David A. Rottenberg, Olaf B. Paulson, *"lyngby" a Matlab toolbox for fMRI analysis: Results of a user questionnaire*, HBM2001, Brighton, UK, 2001 June 10-14, NeuroImage, **13**(6, part 2):S145, 2001 June.

9. Steve Lawrence, Frans Coetzee, Gary Flake, David Pennock, Bob Krovetz, Finn Årup Nielsen, Andries Kruger, Lee Giles, *Persistence of information on the web: Analyzing citations contained in research articles*, CIKM 2000, Washington DC, USA, 2000 November 6-11.

10. Lars Kai Hansen, Sigurdur Sigurdsson, Thomas Kolenda, Finn Årup Nielsen, Ulrik Kjems, Jan Larsen, *Modeling Text with Generalizable Gaussian Mixtures*, ICASSP'2000, Istanbul, Turkey, 2000 June

11. Archana Purushotham, Finn Årup Nielsen, Lars Kai Hansen, Seong-Gi Kim, *Meta-K-Means Clustering as a Means to Separate Different Functional Components of a Cognitive Task in fMRI Single Trial Data*, International Society for Magnetic Resonance in Medicine, 8th Scientific Meeting & Exhibition, 2000 April 1-7.

12. Finn Årup Nielsen, Lars Kai Hansen, *Experiences with Matlab and VRML in Functional Neuroimaging Visualizations*, Visualization Development Environments (VDE2000), Princeton Plasma Physics Laboratory, Princeton, New Jersey, USA, 2000 April 27-28.

13. Lars Kai Hansen, Finn Årup Nielsen, Matthew G. Liptrot, Cyril Goutte, Stephen C. Strother, Nick Lange, Anders Gade, David A. Rottenberg, Olaf B. Paulson, *lyngby 2.0 – A Modeler's Matlab Toolbox for Spatio-temporal Analysis of Functional Neuroimages*, SIXTH INTERNATIONAL CONFERENCE ON FUNCTIONAL MAPPING OF THE HUMAN BRAIN, NeuroImage, **11**(5, Part 2):S917, 2000 May.

14. Daniela Balslev, Ian Law, Sally A. Frutiger, John J. Sidtis, Finn Årup Nielsen, Torben B. Christiansen, Stephen C. Strother, Claus Svarer, David A. Rottenberg, Olaf B. Paulson, Lars Kai Hansen, *Visuomotor Skill Learning: a PET Study of Mirror Tracing Using Cluster Analysis and Statistical Parametric Mapping*, SIXTH INTERNATIONAL CONFERENCE ON FUNCTIONAL MAPPING OF THE HUMAN BRAIN NeuroImage, **11**(5, Part 2):S371, 2000 May.

15. Finn Årup Nielsen, Cyril Goutte, Lars Kai Hansen *Artificial Neural Network Model for fMRI timeseries and a Framework for Comparison of Convolution Models*, FIFTH INTERNATIONAL CONFERENCE ON FUNCTIONAL MAPPING OF THE HUMAN BRAIN, NeuroImage, S173 1999 June.

16. Lars Kai Hansen, Finn Årup Nielsen, Peter Toft, Matthew G. Liptrot, Cyril Goutte, Stephen C. Strother, Nick Lange, Anders Gade, David A. Rottenberg, Olaf B. Paulson, *"lyngby" — a modeler's Matlab toolbox for spatio-temporal analysis of functional neuroimages* FIFTH INTERNATIONAL CONFERENCE ON FUNCTIONAL MAPPING OF THE HUMAN BRAIN, NeuroImage, S241, 1999 June.

17. Archana Purushotham, Finn Årup Nielsen, Lars Kai Hansen, Seong-Gi Kim, *Separation of Motor Preparation and Execution Regions Using Meta-K-Means Clustering on fMRI Single Trial Data*, FIFTH INTERNATIONAL CONFERENCE ON FUNCTIONAL MAPPING OF THE HUMAN BRAIN, NeuroImage, S51, 1999 June.

18. Andrew Chen, Finn Årup Nielsen, Lars Kai Hansen, *A 3D Brain Model of VRML/Talairach for Standardized Datasets In Neuroimaging of Human Pain: PET Data in Headache vs. Angina (demo)*, FIFTH INTERNATIONAL CONFERENCE ON FUNCTIONAL MAPPING OF THE HUMAN BRAIN NeuroImage, 1999, June, S183, 1999 January.

19. Lars Kai Hansen, Niels Mørch, Finn Årup Nielsen, *Neural Networks in Functional Neuroimaging*, IEEE Nordic Signal Processing Symposium, Aalborg University, Norsig '98.

20. Nick Lange, Lars Kai Hansen, Jon R. Anderson, Finn Årup Nielsen, Robert Savoy, Seong-Gi Kim, Stephen C. Strother, *An Empirical Study of Statistical Model Complexity in Neuro-fMRI*, FOURTH INTERNATIONAL CONFERENCE ON FUNCTIONAL MAPPING OF THE HUMAN BRAIN, NeuroImage, **7**(4, Part 2):S764, 1998 May.

21. Cyril Goutte, Finn Årup Nielsen, Claus Svarer, Egill Rostrup, Lars Kai Hansen, *Space-time analysis of fMRI by feature space clustering*, FOURTH INTERNATIONAL CONFERENCE ON FUNCTIONAL MAPPING OF THE HUMAN BRAIN, NeuroImage, **7**(4, Part 2):S610, 1998 May.

22. Finn Årup Nielsen, Lars Kai Hansen, Stephen C. Strother, *Canonical Ridge Analysis with Ridge Parameter Optimization*, 1998 january. FOURTH INTERNATIONAL CONFERENCE ON FUNCTIONAL MAPPING OF THE HUMAN BRAIN, NeuroImage, **7**(4, Part 2):S758, 1998 May.

23. Finn Årup Nielsen, Lars Kai Hansen, *Neuroinformatics with VRML* FOURTH INTERNATIONAL CONFERENCE ON FUNCTIONAL MAPPING OF THE HUMAN BRAIN, NeuroImage, **7**(4):S782, 1998 May.

24. Finn Årup Nielsen, Lars Kai Hansen, *Interactive Information Visualization in Neuroimaging*, NPIVM'97 - Workshop on New Paradigms in Information Visualization and Manipulation, David S. Ebert, Charles K. Nicholas (editors) ACM ISBN 1-58113-051-1.

25. Mattias Ohlsson, Peter Toft, Lars Kai Hansen, Finn Årup Nielsen, *Active Surface Models for Brain Imaging*, Interdisciplinary Inversion Workshop 5, 1997 October.

26. Finn Årup Nielsen, L. K. Hansen, P. Toft, S. C. Strother, N. Lange, N. Mørch, C. Svarer, O. B. Paulson, R. Savoy, B. Rosen, E. Rostrup, P Born, *Comparison of two convolution models for fMRI time series*, THIRD INTERNATIONAL CONFERENCE ON FUNCTIONAL MAPPING OF THE HUMAN BRAIN, NeuroImage, **5**(4, Part 2):S473, 1997 May.

27. Peter Toft, Lars Kai Hansen, Finn Årup Nielsen, Stephen C. Strother, Nick Lange, Niels Mørch, Claus Svarer, Olaf B. Paulson, Robert Savoy, Bruce Rosen, Egill Rostrup, Peter Born, *On clustering of fMRI time series*, THIRD INTERNATIONAL CONFERENCE ON FUNCTIONAL MAPPING OF THE HUMAN BRAIN, NeuroImage, **5**(4, Part 2):S456, 1997 May.

28. Lars Kai Hansen, Finn Årup Nielsen, Peter Toft, Stephen C. Strother, Nick Lange, Niels Mørch, Claus Svarer, Olaf B. Paulson, Robert Savoy, Bruce Rosen, Egill Rostrup, Peter Bor, *How many Principal Component*, THIRD INTERNATIONAL CONFERENCE ON FUNCTIONAL MAPPING OF THE HUMAN BRAIN, NeuroImage, **5**(4, Part 2):S474, 1997 May.

3.3 Theses

1. Finn Årup Nielsen, *Neuroinformatics in Functional Neuroimaging*, Ph. D. thesis, 2001 September.
2. Finn Årup Nielsen, *Visualization and Analysis of 3D Functional Brain Images*, Master Thesis, 1996 February.

3.4 Other scientific work

1. Finn Årup Nielsen, Lars Kai Hansen, Ulrik Kjems, *Mining the BrainMap™ database: Detection of outliers*, Submitted to and not accepted for NIPS'2000, Denver, Colorado, USA, 2000 December
2. Finn Årup Nielsen, Lars Kai Hansen, *Functional Volumes Modeling using Kernel Density Estimation*, Submitted to SIXTH INTERNATIONAL CONFERENCE ON FUNCTIONAL MAPPING OF THE HUMAN BRAIN but lost in the submission database, 2000 january.
3. Finn Årup Nielsen, Cyril Goutte, Lars Kai Hansen, *Modelling the fMRI response using smooth FIR filters*, Submitted to SIXTH INTERNATIONAL CONFERENCE ON FUNCTIONAL MAPPING OF THE HUMAN BRAIN but lost in the submission database, 2000 january.
4. Finn Årup Nielsen, Lars Kai Hansen, *Modeling of BrainMap data*, 1999 May. Submitted to but not accepted for Neural Information Processing Systems 12
5. Peter Toft, Finn Årup Nielsen, Lars Kai Hansen, *Lyngby, fMRI analysis Matlab toolbox*, IMM, Technical University of Denmark, 1998 November.

4 Other work

1. Pictures and models in *Aktuel Naturvidenskab*, *Berlingske Tidende*, *Datatid*, *TechWorld*, *VRML 2.0 in the www* (book by Julien Van), *Videnskaben eller Gud* (Danmarks Radio TV-program), *Hardisken* (Danmarks Radio TV-program), *Aske til Aske - Støv til Støv* (play at Odense Theater).
2. *Hjernen i Virtual Reality*, Talk at Arkitekskolen i Aarhus, 1999 February.
3. Digital movies, recorded speech and pictures for *Hjernen*, exhibition at Experimentarium, 1997.

5 Conference and workshop attendance

1. *Summer Workshop in fMRI Informatics*, The fMRI data center, Dartmouth College, Hanover, New Hampshire, USA, 2002 July 8-10.
2. *8th International Conference on Functional Mapping of the Human Brain (HBM2002)*,
   Sendai International Center, Sendai, Japan, 2002 June 2-6.
3. *02 * Bornholm PhD-Workshop* Bornholm, Denmark, 2002 April 8-12.
4. *Brain and Cognition*, Skejby Sygehus, Aarhus University Hospital, 2002 February 21-22.
5. *3rd International Conference on INDEPENDENT COMPONENT ANALYSIS and BLIND SIGNAL SEPARATION (ICA2001)*, Hilton, Del Mar, San Diego, California, USA, 2001 December 10-13.
6. *Neural Information Processing Systems: Natural and Synthetic (NIPS*2001)*, Hyatt, Vancouver, British Columbia, Canada, 2001 December 3-8. and *NIPS Workshop RUMBA Two-Day Workshop: Concepts and Methods in Neuroimaging*, Whistler, British Columbia, Canada, 2001, December.
7. *Visual Cognition and Neuroscience symposium*, Copenhagen University, Denmark, 2001, November 30.
8. *The 7th Annual Meeting of the Organisation for Human Brain Mapping (HBM2001)*, Brighton UK, 2001, June.

9. *SIXTH INTERNATIONAL CONFERENCE ON FUNCTIONAL MAPPING OF THE HUMAN BRAIN (HBM'2000)*, San Antonio, Texas, USA. 2000 sommer.

10. *Visualization Development Environments (VDE2000)*, Princeton Plasma Physics Laboratory, Princeton, New Jersey, USA, 2000 April 27-28.

11. *Thirteenth Annual Conference on Neural Information Processing Systems - Natural and Synthetic (NIPS-12)*, Denver/Breckenridge, Colorado. 1999 November 29 - December 4

12. *FIFTH INTERNATIONAL CONFERENCE ON FUNCTIONAL MAPPING OF THE HUMAN BRAIN (HBM'99)*, Dusseldorf, Germany. 1999 June 22-26.

13. *IVth International Conference on Quantification of Brain Functional with PET (BrainPET'99)*, Bella Centret, Copenhagen, Denmark. 1999 June 16-17.

14. *Basic and Clinical Application of Human Brain Mapping: Effective Use of EEG/ERP Neuroinformatics*, The International Doctoral School in Biomedical Science and Engineering, Aalborg University, Aalborg, Denmark. 1999 Januar 30-31.

15. *Twelfth Annual Conference on Neural Information Processing Systems - Natural and Synthetic (NIPS-11)*, Denver/Breckenridge, Colorado. 1998 November 30 - December 5.

16. *FOURTH INTERNATIONAL CONFERENCE ON FUNCTIONAL MAPPING OF THE HUMAN BRAIN (HBM'98)*, Montreal, Canada. 1998 June 7-12.

17. *Sixth International ACM Conference on Information and Knowledge Management (CIKM'97)*,

18. *Workshop on New Paradigms in Information Visualization and Manipulation (NPIVM'97)*, Monte Carlo Hotel, Las Vegas, Nevada, USA. 1997 November 10-14.

19. *THIRD INTERNATIONAL CONFERENCE ON FUNCTIONAL MAPPING OF THE HUMAN BRAIN (HBM'97)*, Copenhagen, Denmark. 1997 May 19-23. BrainMap '96. La Mansion del Rio Hotel, San Antonio, Texas, USA. 1996 dec 8-9.

20. *SECOND INTERNATIONAL CONFERENCE ON FUNCTIONAL MAPPING OF THE HUMAN BRAIN (HBM'96)*, Boston, Massachusetts, USA. 1996 june 17-21.

6 Visits

1. Minneapolis VA Medical Center, PET Imaging Service. 2000 october/november.

2. NEC Research Institute, Inc., Computer Science division (Intelligent Information Processing), Princeton, New Jersey, 1999 November - 2000 April.

3. Minneapolis VA Medical Center, PET Imaging Service. 1998 June.

4. Minneapolis VA Medical Center, PET Imaging Service. 1997 November.

5. University of Texas, Health Science Center, Research imaging center. 1996 December.

6. Minneapolis VA Medical Center, PET Imaging Service. 1996 June.

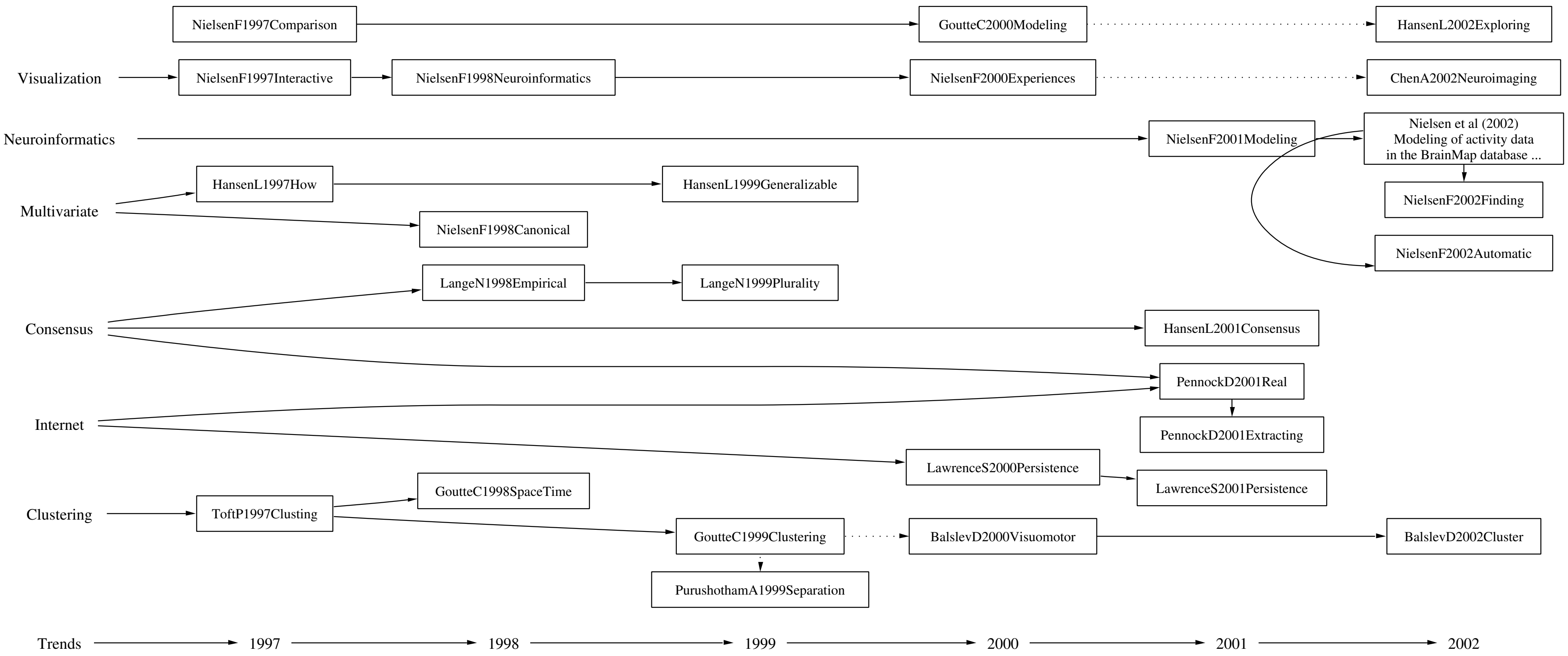

Figure 1: Articles