Curriculum vitae

Name: Sigurdur Sigurdsson
Date of birth: November 22, 1967 Keflavik, Iceland.
Address: Dalgas have 6, 1. th., DK-2000 Frederiksberg, Denmark.

Education

Ph.D. degree at the Technical University of Denmark 2003.

Course in Teaching and Learning, Department of Technology and Social Sciences, Technical University of Denmark, December 2-4, 2002.

M.Sc. degree in engineering from Technical University of Denmark 1998.

B.Sc. degree in electrical engineering from The Engineering College of Odense (Odense Teknikum), 1996.

Employments

2003-2004: Assistant research professor at Informatics and Mathematical Modelling, Technical University of Denmark. AE-WATT project: Marine Power Plant Management and Monitoring using Acoustic Emission, supported by EU under the Competitive and Sustainable Growth Program. Teaching B.Sc course Signal Analysis 02322.

2003: Assistant research professor at Informatics and Mathematical Modelling, Technical University of Denmark. The Human Brain Project: Classification and feature extraction from functional neuroimages. Teaching B.Sc. course Signal Analysis 02322.

1999-2003: Ph.D. student at Informatics and Mathematical Modelling, Technical University of Denmark. Diagnosis support systems, pattern recognition, classification and visualization of medical data. Case study is Raman spectroscopy for classification of skin lesions.

1999: Research assistant at Informatics and Mathematical Modelling, Technical University of Denmark. Working on text analysis, feature extraction from text and document classification.

1998-1999: Research assistant at Informatics and Mathematical Modelling, Technical University of Denmark. Working on feature extraction and classification of skin lesions from dermatoscopic images.

Talks

Learning Based Skin Cancer Detection, invited talk at the *Dansk Selskab for Anvendt Digital Signalbehandling* (DSADSP) seminar on digital signal processing in medical systems, Technical University of Denmark, November 7, 2003.

Outlier Estimation and Detection, invited talk at the *Copenhagen Image and Signal Processing* (CISP) workshop, Rønne, Denmark, April 10, 2002.

Classifying Skin Cancer from Raman Spectra, invited talk on *Medical vision day*, Technical University of Denmark, May 30, 2001.

Classifying Skin Cancer from Raman Spectra, invited talk at the *Center for Biomedical Optics and New Laser Systems* (BIOP) seminar on Raman spectroscopic methods, Technical University of Denmark, April 25, 2001.

Classifying Skin Cancer from Raman Spectra, invited talk at the *THOR Center for Neuroinformatics* workshop, Rønne, Denmark, March 30, 2001.

Analysis of Skin Lesions using Neural Classifiers, invited talk on *Medical vision day*, Technical University of Denmark, June 14, 2000.

Publications

R.E. Madsen, S. Sigurdsson, L.K. Hansen and J. Larsen. **Pruning the Vocabulary for Better Context Recognition.** Submitted for IJCNN 2004 - International Joint Conference on Neural Networks

R.E. Madsen, S. Sigurdsson and L.K. Hansen. **Enhanced Context Recognition by Sensitivity Pruned Vocabularies.** Submitted for ICPR 2004 – 17th International Conference on Pattern Recognition.

N.H. Pontoppidan, J. Larsen, S. Sigurdsson, J. Steel, R. Douglas, T. Fog, E. Brown. **Data Acquisition Strategy and Signal Preprocessing.** Technical Report 2003, Informatics and Mathematical Modelling, Technical University of Denmark, 2003

S. Sigurdsson. **A Probabilistic Framework for Detection of Skin Cancer by Raman Spectra.** Ph.D. Thesis, Informatics and Mathematical Modelling, Technical University of Denmark, DTU, 2003

S. Sigurdsson, M. Gniadecka, J. Larsen, H.C. Wulf and L.K. Hansen. **Estimating and Suppressing Background in Raman Spectra with an Artificial Neural Network.** Technical Report 2003-20, Informatics and Mathematical Modelling, Technical University of Denmark, 2003

S. Sigurdsson, L.K. Hansen and K.T. Drzewiecki. **Identifying Black Dots in Dermatoscopic Images using Template Matching.** Technical Report 2003-21, Informatics and Mathematical Modelling, Technical University of Denmark, 2003.

S. Sigurdsson, L.K. Hansen and K.T. Drzewiecki. **Color Segmentation of Skin Lesions with the Generalizable Gaussian Mixture Model.** Technical Report 2003-22, Informatics and Mathematical Modelling, Technical University of Denmark, 2003

M. Gniadecka, P.A. Philipsen, S. Sigurdsson, S. Wessel, O.F. Nielsen, D.H. Christensen, J. Hercogova, K. Rossen, H.K. Thomsen, R. Gniadecki, L.K. Hansen, H.C. Wulf. **Malignant Melanoma Diagnosis by Raman Spectroscopy and Neural Network: Structure Alterations in Proteins and Lipids in Intact Cancer Tissue.** Accepted for Journal of Investigative Dermatology, 2003

S. Sigurdsson, P.A. Philipsen, L.K. Hansen, J. Larsen, M. Gniadecka, and H.C. Wulf. **Detection of Skin Cancer by Classification of Raman Spectra.** Accepted for IEEE Transactions on Biomedical Engineering, 2003

S. Sigurdsson, J. Larsen, L.K. Hansen, P.A. Philipsen and H.C. Wulf **Outlier estimation and detection: Application to Skin Lesion Classification.** In proceedings of ICASSP'2002, Orlando, Florida, USA, May 13-17, vol. I, pp. 1049-1052, 2002

S. Sigurdsson, J. Larsen and L.K. Hansen. **On Comparison of Adaptive Regularization Methods.** In B. Widrow, L. Guan, K. Paliwa, T. Adali, J. Larsen, E. Wilson, S. Douglas (eds.) *Proceedings of the IEEE Workshop on Neural Networks for Signal Processing X*, Piscataway, New Jersey: IEEE. Sydney, Australia, Dec. 11-13, 2000, pp. 221-230.

L.K. Hansen, S. Sigurdsson, T. Kolenda, F.Å. Nielsen, U. Kjems and J. Larsen. **Modeling Text with Generalizable Gaussian Mixtures** In proceedings of IEEE ICASSP'2000, Istanbul, Turkey, June 5-9, 2000, vol. VI, pp. 3494-3497.

T. Kolenda, L.K. Hansen and S. Sigurdsson. **Independent Components in Text.** Advances in Independent Component Analysis, Springer-Verlag, M. Girolami (ed.), 2000