London, September 24, 2008

Curriculum Vitae

Personal Data

Full Name:	Martin Lillholm
Nationality:	Danish
Current employment:	Research Fellow, Dept. of Computer Science, University College London

Academic Background

2004	Ph.D. in Image Analysis, Dept. of Innovation, IT University of Copenhagen, Denmark.
2002	Visiting Researcher, King's College London.
2002	M.Sc. in Multimedia Technology, IT University of Copenhagen, Denmark.
1998	B.Sc. in Computer Science, Dept. of Computer Science, University of Copenhagen, Denmark.

Employment

2006 –	Research Fellow, Dept. of Computer Science, University College London
2005	Acting provost of teaching, the IT University of Copenhagen
2004 – 2006	Assistant Professor, the IT University of Copenhagen.
2000 – 2004	Ph.D. student, the IT University of Copenhagen.
1999	Part of the administrative start-up staff at the IT University of Copenhagen.
1997 – 1999	Systems consultant at Delfin Software, Denmark
1996 – 1997	Systems consultant at FLS Data AS (now EDS Denmark), Denmark
1994 – 1996	Teaching Assistant at Dept. Computer Science, University of Copenhagen.

Participation in Recent Research Projects

Basic Image Features (EPSRC)
Natural Image Sequence Analysis, co-investigator (Danish Research Council)
VISIONTRAIN, Computational and Cognitive Vision Systems: A Training European Network (EU)
Deep Structure and Singularities in Computer Vision (EU)
Computing Natural Shape (Danish Research Council)

Teaching

Undergraduate and graduate lecturing in computer vision, image processing, and programming.

Ph.D. course in *Statistical models of images* (2005).

Other

Assistant Chair and co-organiser of The 4th International Conference on Scale Space Methods in Computer Vision, Isle of Skye 2003.

Reviewing for IEEE PAMI, IEEE TIP, JMIV, CBM, ICCV, ECCV, SS, SSVM, BMCV...

Assistant chair of the interim board of studies, the IT University of Copenhagen 1999–2001.

Selected Publications

Journal Papers

L.D. Griffin and M. Lillholm. Symmetry-sensitivities of derivative-of-Gaussian filters. Submitted *IEEE PAMI*, 2008.

M. Lillholm and L.D. Griffin. Statistics and category systems for the shape index descriptor of local 2nd order natural image structure. *Image and Vision Computing*, 2008. *In press*

L.D. Griffin and M. Lillholm. Hypotheses for image features, icons and textons. *International Journal of Computer Vision*, 70(3):213–230, 2006.

L.D. Griffin, M. Lillholm, and M. Nielsen. Natural image profiles are most likely to be step edges. *Vision Research*, 44(4):407–421, 2004.

M. Lillholm, M. Nielsen, and L. D. Griffin. Feature-based image analysis. *International Journal of Computer Vision*, 52(2/3):73–95, 2003.

Books

L.D. Griffin and M. Lillholm, editors. *Scale Space Methods in Computer Vision*, volume 2695. Springer, 2003.

M. Lillholm. *On Spatial Metamerism in Computational Vision*. PhD thesis, IT University of Copenhagn, 2006. ITU DS: D-2006-21, ISBN:87-7949-119-7.

Peer reviewed conference papers and abstracts

M. Lillholm M and L.D. Griffin. Novel Image Feature Alphabets for Object Recognition. To appear *ICPR* 2008, 2008.

M. Lillholm and L.D. Griffin. Larger Feature Alphabets can improve Object Recognition even with simpler Visual Words. *Perception* 37 (ECVP):33, 2008.

L.D. Griffin and M. Lillholm. Classifying Image Symmetry using a co-localised family of Linear Filters. *Perception* 37 (ECVP):122, 2008.

M. Lillholm and L.D. Griffin. Category systems for local 2nd order image structure in natural images. In *From Computational Cognitive Neuroscience to Computer Vision, CCNCV 2007*, 2007.

M. Lillholm and L.D. Griffin. Maximum likelihood metameres for local 2nd order structure of natural images. In *First Int Conf on Scale Space Methods and Variational Methods in Computer Vision*, volume 4485 of *Lecture Notes in Computer Science*, pages 394–405. Springer, 2007.

L.D. Griffin and M. Lillholm. Feature category systems for 2nd order local image structure induced by natural image statistics and otherwise. *Proceedings of SPIE*, 6492:649209, 2007.

M. Lillholm and L.D. Griffin. A category system on the shape index descriptor of local image structure induced by natural image statistics. In *Perception 35*, 2006.

L.D. Griffin and M. Lillholm. Image features and the 1-d, 2nd order gaussian derivative jet. In *5th Intern. Conf. on Scale-Space Theories and PDE Methods in Computer Vision*, Lecture Notes in Computer Science, pages 26–37. Springer, 2005.

F. Kanters, M. Lillholm, R. Duits, B. Janssen, B. Platel, L. Florack, and B.M. ter Haar Romeny. On image reconstruction from multiscale top points. In *5th Intern. Conf. on Scale-Space Theories and PDE Methods in Computer Vision*, volume 3459 of *Lecture Notes in Computer Science*, pages 431–442, 2005.

K. S. Pedersen and M. Lillholm. Brownian images: A generic background model. In *Statistical Learning in Computer Vision, ECCV '04 Workshop*, Prague, 2004.

M. Lillhom and K. S. Pedersen. Jet based classification. In *Proceedings of the 17th International Conference on Pattern Recognition*, 2004.

L. D. Griffin and M. Lillholm. Mode estimation by pessimistic scale space tracking. In L. D. Griffin and M. Lillholm, editors, *Scale Space '03*, Lecture Notes in Computer Science, pages 266–280, Isle of Skye, UK, 2003. Springer.

M. Loog, M. Lillholm, M. Nielsen, and M.A. Viergever. Gaussian scale space from insufficient image information. In L. D. Griffin and M. Lillholm, editors, *Scale Space '03*, Lecture Notes in Computer Science, pages 757–769, Isle of Skye, UK, 2003. Springer.

M. Nielsen and M. Lillholm. What do features tell about images? In *ScaleSpace01*, number 2106 in LNCS, pages 39–50. Springer, July 2001.

Miscellaneous

O. Fogh Olsen, E.B. Dam, M. Lillholm, A. Thomsen, P. Johansen, and M. Nielsen. Method and system for multi-dimensional segmentation. Danish Patent Application, 2001.

E.D. Dam and M. Koch and M. Lillholm Quaternions, interpolations and animation. Technical report, Dept. of Computer Science, University of Copenhagen 98/5, 1998.