Maurice Samulski

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Born: December 26, 1978.
Nationality: Dutch

Current position

2006-   *PhD student*, Department of Radiology, Radboud University Nijmegen Medical Centre

Areas of specialization and competence

computer aided detection ● breast cancer ● machine learning ● pattern recognition ● interactive computer aided decision support systems ● Qt / VTK development

Education

2003-2006   MSc in Computer Sciences for HBO graduates (*Theme: Software Construction; Variation: Research*) at the Radboud University of Nijmegen, the Netherlands.
Graduated in 2006 with a thesis on the classification of breast lesions in mammograms (awarded AIA Software Master Award 2006, the prize for Nijmegen's most outstanding IT Master thesis of academic year 2005-2006), which continued in a PhD-project under supervision of dr. ir. Nico Karssemeijer at the Radboud University Medical Centre Nijmegen.

1999-2003   BSc in Technical Computer Sciences at the "Hogeschool Zuyd" of Heerlen (college), The Netherlands.
Graduated at Far Courier B.V. in Meerssen on the development of two applications for the support of the delivering process: a micro controller based system in the car which processes GPS data, has black box functionality for the registration of gravity, speed, position and direction of a car in the case of an accident, reads bar codes and send them via DECT to the

car and establishing communication via GSM (data/voice). Furthermore a Windows GUI client was designed which communicates via SMS/GPRS with the cars.

1995-1999   MTS Automation and electronics at the "Arcus College" of Heerlen, The Netherlands. Graduated at Getronics Networks & Services in Geleen on repair, installation and configuration of hard- and software solutions on-site, mostly at the chemical company DSM.

1994-1995   Highschool MAVO education at Albert Schweitzer in Geleen.

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Grants, honors & awards

2006   AIA Masters Award of the academic year 2005/2006.

Publications & communications

Peer-review journal articles

M. Velikova, **M. Samulski**, P. Lucas, N.Karssemeijer, Improved mammographic CAD performance using multi-view information: A Bayesian network framework, In Physics in Medicine and Biology, Vol. 54, pp. 1131-1147, 2009.

Conference proceedings

M. Samulski, A. Hupse, C. Boetes, G. den Heeten, and N. Karssemeijer. Analysis of probed regions in an interactive CAD system for the detection of masses in mammograms. To be published in Proceedings of SPIE – Volume 7263, Medical Imaging 2009: Image Perception, Observer Performance, and Technology Assessment, Berkman Sahiner, David J. Manning, Editors, ISBN: n/a, Orlando, FL, 2009.

M. Velikova, **M. Samulski**, P. Lucas, N.Karssemeijer, Causal Probabilistic Modelling for Two-View Mammographic Analysis, In Proceedings of the 12th Conference on Artificial Intelligence in Medicine (AIME) LNAI 5651, pp. 395-404, 2009.

M. Velikova, H. Daniels, **M. Samulski**, Partially monotone networks applied to breast cancer detection on mammograms, In Proceedings of the 18th International Conference on Artificial Neural Networks (ICANN), LNCS 5163, pp. 917-926, 2008.

M. Samulski and N. Karssemeijer. Linking mass regions in mediolateral oblique and cranio caudal views. In Proceedings of the 14th ASCI conference, pages 214-221, G.J.M. Smit, D.H.J. Epema, M.S. Lew, Editors, ISBN: 9789081084932, Heijen, The Netherlands, 2008.

M. Samulski and N. Karssemeijer. Matching mammographic regions in mediolateral oblique and cranio caudal views: A probabilistic approach. In Proceedings of SPIE – Volume 6915, Medical Imaging 2008: Computer-Aided Diagnosis, Maryellen L. Giger, Nico Karssemeijer, Editors, ISBN: 9780819470997, San Diego, CA, 2008.

N. Karssemeijer, A. Hupse, **M. Samulski**, M. Kallenberg, C. Boetes, G. den Heeten, An interactive computer aided decision support system for detection of masses in mammograms, In Proceedings of the 9th International Workshop on Digital Mammography (IWDM), 2008.

M. Velikova, P. Lucas, N. de Carvalho Ferreira, **M. Samulski**, N.Karssemeijer, A decision support system for breast cancer detection in screening programs, In Proceedings of the 18th biennial European Conference on Artificial Intelligence (ECAI), Vol. 178, 2008.

M. Velikova, **M. Samulski**, N.Karssemeijer, P. Lucas, Toward expert knowledge representation for automatic breast cancer detection, In Proceedings of the 13th biennial International Conference on Artificial Intelligence: Methodology, Systems, Applications (AIMSA), LNAI 5253, pp. 333-344, 2008.

M. Samulski, N. Karssemeijer, P. Lucas, and P. Groot. Classification of mammographic masses using support vector machines and Bayesian networks. In Proceedings of SPIE – Volume 6514, Medical Imaging 2007: Computer-Aided Diagnosis, Maryellen L. Giger, Nico Karssemeijer, Editors, ISBN: 9780819466327, San Diego, CA, 2007.

Others

N. Karssemeijer, **M. Samulski**, C. Boetes, G. den Heeten, Analysis of Observer Performance Based on Probing Patterns in an Interactive CAD System for Mammographic Mass Detection , Scientific Presentation at RSNA 2008 94th Scientific Assembly and Annual Meeting, McCormick Place, Chicago, 2008.

N. Karssemeijer, **M. Samulski**, M. Kallenberg, A. Hupse, C. Boetes, G. den Heeten, Effectiveness of an Interactive CAD System for Mammographic Mass Detection, Scientific Presentation at RSNA 2008 94th Scientific Assembly and Annual Meeting, McCormick Place, Chicago, 2008.

Press articles

Press article Strijden tegen borstkanker in Radboud university magazine B For You for high school students, Mei 2008.

Exhbitions

M. Samulski and N. Karssemeijer, An Interactive Computer-aided Detection Workstation for Reading Mammograms, Education Exhibit at RSNA 2008 94th Scientific Assembly and Annual Meeting, McCormick Place, Chicago, 2008.

Master's thesis

M. Samulski. Classification of Breast Lesions in Digital Mammograms, Master's Thesis. Radboud University Nijmegen, June 2006.

Service to the profession

Occasional reviewer for: IEEE Transactions on Medical Imaging; Medical Physics; Physics in Medicine and Biology.

IT & programming skills

Programming languages (Delphi, Pascal, Visual Basic, Java, Ansi C, C++, C#, J#)

Markup (HTML, XHTML, CSS, XML, XSD)

Scripting languages (PHP, TCL, shell script, JavaScript)

Query languages (SQL, PL/SQL)

Functional languages (Clean)

Computation and statistical analysis (Matlab, R)

Typesetting (LATEX, XETEX)

Server administration (Apache)

Operating systems (UNIX/AIX, FreeBSD, Solaris, Linux, Microsoft DOS, Windows 9x/NT/2000/XP/7)
Miscellaneous (ESC/Control M 6.0.0, Keil RTX-51 Real-Time OS, Keil μVision 2, NC30WA Integrated C Compiler, KD30 Remote Debugger, Rational Rose Suite UML)

Languages

Dutch (native)

English (near native)

German(some)