Curriculum Vitae for Benny Lövström

Personal Data

Name:	Benny Lövström
Born:	Sweden, December 31, 1957
Affiliation:	Blekinge Institute of Technology
	Department of Mathematics and Natural Sciences,
	371 79 Karlskrona, Sweden
	+46 455 385704
	benny.lovstrom@bth.se
	https://www.bth.se/eng/staff/benny-lovstrom-blo/

Positions and designations

June 1993 – present, Blekinge Institute of Technology

Senior Lecturer in Signal Processing at Blekinge Institute of Technology (BTH), June 1993-present. Appointed Associate Professor (Docent) from May 2017.

Head of Department Signal Processing (later Department of Applied Signal Processing, and Department of Telecommunications and Signal Processing) 1994 – 1999.

Director of Studies and Deputy Head of department 1999 – 2003, Department of Telecommunications and Signal Processing.

Dean of Education at BTH 2002-2010.

Deputy Head of School of Engineering 2004-2009.

Acting Head of School of Engineering, April 2009.

Senior Advisor at School of Engineering 2009-2011.

Chairman of the BTH Council for scholarships and tuition fees, 2011-present.

Project manager for a project with commissioned education for Saudi Arabian participants, 2011-2016. Total project budget: 4 MSEK.

Vice dean of Faculty of Engineering at BTH, 2014-2017.

Dean of Faculty of Engineering at BTH, 2018-2020.

Project manager for a project, supported by the Knowledge Foundation, for development of engineering education at advanced level within Computer Engineering and Digital Media Technology, together with industrial partners, 2014-2016. Total project budget: 3 MSEK.

Teaching performed mainly in signal processing, adaptive signal processing, image processing and digital and wireless communications. My research area is mainly within image and video processing with some focus on handheld devices and within modelling of road traffic flows.

1983 – 1993, Lund University

During this period, I held positions as teaching assistant, Ph.D. student and substitute senior lecturer at Lund Institute of Technology, Sweden.

Academic degrees

May 2017: Docent (Associate Professor) in Applied Signal Processing at BTH
Nov 1992: Ph.D. in Signal Processing, Lund Institute of Technology (LTH), Sweden.
Jan 1989: Licentiate degree in Signal Processing, LTH.
Autumn 1981: University course in economic history (15 ECTS)
Aug 1978 - Jan 1983: M. Sc. in Electrical Engineering (Civilingenjör), LTH.
Aug 1976 - June 1977: University course in mathematics (60 ECTS)

Supervision of thesis works

At BTH I have been supervising PhD students to their degree according to:
2022, Licentiate degree within audio signal processing
2021, Licentiate degree within mathematical modelling of transportation systems
2014, two students to a PhD degree within audio and video processing
2011, PhD degree within quality measurement and sensor arrangement
Currently I am supervisor for two PhD students and senior reviewer for three PhD students.

At BTH and Lund University I have supervised thesis works at Bachelor and Master level, mainly in signal, image and video processing and in radio- and telecommunications.

Other Qualifications

Member Swedish-Brazilian Research and Innovation Centre (CISB) Executive Board 2021-2022.

Reviewed of international research papers. During 2011-2014 the reviews were mainly for the Australian Journal of Electrical & Electronics Engineering (5 reviews), the International Congress on Image and Signal Processing (12), the International Conference on Multimedia and Expo (23), and the International Conference on Signal Processing and Communication Systems (3). From 2014 journal papers were reviewed in Multimedia Tools and Applications (40), Journal of Visual Communication and Image Representation (6), Ecological Informatics (1), IEEE Transactions on Broadcasting (1), Computers in biology and medicine (1).

Reviewer for *Unga Forskare* 2017-2020.

Reviewed submissions to IELA e-learning conferences 2015 and 2016.

Appointed by IEEE to be the Counsellor for the IEEE BTH Student Branch, 2012-present.
Chair of the evaluation committee at the IEEE Thesis Poster Competition at BTH, 2012 and 2013.

Member of the evaluation board at three doctoral dissertations at LTH, and "opponent" at three licentiate dissertations at LTH. Deputy member of the evaluation board for several doctoral dissertations at BTH.

In October 2010 nominated to IEEE Communication Society Multimedia Communications Technical Committee (IEEE MMTC) and became a Voting member.

During 2009 member of the reference group for the Quality Conference at Swedish National Agency for Higher Education.

Held 2008-2011 a position in the management team of Ung Kommunikation, a Knowledge Foundation project at BTH and Linnaeus University.

Research supervision course taken 2003 at BTH.

Publications and reports

S. Ahmed, M. T. Bhatti, M. G. Khan, B. Lövström, and M. Shahid, 'Development and Optimization of Deep Learning Models for Weapon Detection in Surveillance Videos', Applied Sciences, vol. 12, no. 12, 2022.

S. Dost, F. Saud, M. Shabbir, M. G. Khan, M. Shahid, and B. Lövström, 'Reduced reference image and video quality assessments: review of methods', EURASIP Journal on Image and Video Processing, Springer, 2022.

H. Fredriksson, M. Dahl, B. Lövström, J. Holmgren, and H. Lennerstad, "Modeling of road traffic flows in the neighboring regions", International Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSPN), 2022.

I. Gertsovich, J. S. Bartůněk, B. Lövström, "Impact of the Transition Between Academic Cultures on the Learner's Academic Performance", in C. Dahlqvist and S. Larsson, Eds., Lärarlärdom 2018: Högskolan Kristianstad. Kristianstad: Kristianstad University Press, 2018.

M. Shahid, K. Pandremmenou, L. P. Kondi, A. Rossholm, B. Lövström, "Perceptual quality estimation of H.264/AVC videos using reduced-reference and no-reference models", Journal of Electronic Imaging, 2017.

M. A. Usman, S. Y. Shin, M. Shahid, B. Lövström, "A No Reference Video Quality Metric Based on Jerkiness Estimation Focusing on Multiple Frame Freezing in Video Streaming", IETE Technical Review, 2017.

T. N. Minhas, M. Shahid, B. Lövström, A. Rossholm, H.-J. Zepernick, M. Fiedler, "QoE rating performance evaluation of ITU-T recommended video quality metrics in the context of video freezes", Australian Journal of Electrical and Electronics Engineering, 2016.

A. Rossholm, B. Lövström, "A robust method for estimating synchronization and delay of audio and video for communication services", Multimedia Tools and Applications, 2016.

K. Pandremmenou, M. Shahid, L. P. Kondi, B. Lövström, "On the improvement of no-reference mean opinion score estimation accuracy by following a frame-level regression approach", IEEE International Conference on Image Processing, 2015.

M. Shahid, J. Panasiuk, G. Van Wallendael, M. Barkowsky, B. Lövström, "Predicting full-reference video quality measures using HEVC bitstream-based no-reference features", International Workshop on Quality of Multimedia Experience, 2015.

K. Pandremmenou, M. Shahid, L. P. Kondi, B. Lövström, "A no-reference bitstream-based perceptual model for video quality estimation of videos affected by coding artifacts and packet losses", SPIE Human Vision and Electronic Imaging, 2015.

S. Tavakoli, M. Shahid, K. Brunnström, B. Lövström, N. García, "Effect of content characteristics on quality of experience of adaptive streaming", International Workshop on Quality of Multimedia Experience, 2014.

M. Shahid, A. Rossholm, B. Lövström, H.-J. Zepernick, "No-reference image and video quality assessment: a classification and review of recent approaches", EURASIP Journal on Image and Video Processing, 2014.

A. Rossholm, M. Shahid, B. Lövström, "Analysis of the impact of temporal, spatial, and quantization variations on perceptual video quality", IEEE Network Operations and Management Symposium, 2014.

T. N. Minhas, M. Shahid, A. Rossholm, B. Lövström, H.-J. Zepernick; M. Fiedler, "Assessment of the rating performance of ITU-T recommended Video Quality Metrics in the context of video freezes" Australasian Telecommunication Networks & Applications Conference, 2013.

M. Shahid, A. Rossholm, B. Lövström , "A No-Reference Machine Learning Based Video Quality Predictor", International Workshop on Quality of Multimedia Experience, 2013

R. Ishaq, B. G. Zapirain, M. Shahid, B. Lövström, "Subband Modulator Kalman Filtering for Single Channel Speech Enhancement", International Conference on Acoustics, Speech, and Signal Processing, 2013

R. Ishaq, M. Shahid, B. Lövström, B. G. Zapirain, I. Claesson, "Modulation Frequency Domain Adaptive Gain Equalizer Using Convex Optimization", International Conference on Signal Processing and Communication Systems, 2012

A. Zahoor, W. Koodtalang, M. Shahid, B. Lövström, "Visual Quality Improvement of Digital Video by Stabilization Using Adaptive CMAC Filtering", International Conference on Signal Processing and Communication Systems, 2012

M. Shahid, A. K. Singam, A. Rossholm, B. Lövström , "Subjective Quality Assessment of H.264/AVC Encoded Low Resolution Videos", International Congress on Image and Signal Processing, 2012.

M. Shahid, A. Rossholm, B. Lövström, "A High Quality Adjustable Complexity Motion Estimation Algorithm for Video Encoders", International Congress on Image and Signal Processing, 2011.

M. Shahid, A. Rossholm, B. Lövström, "A Reduced Complexity No-Reference Artificial Neural Network Based Video Quality Predictor", International Congress on Image and Signal Processing, 2011.

M. Shahid, R. Ishaq, B. Sällberg, N. Grbic, B. Lövström, I. Claesson, "Modulation Domain Adaptive Gain Equalizer for Speech Enhancement", International Conferences on Signal and Image Processing and Applications, 2011.

A. Rossholm, B. Lövström, "A New Low Complex Reference Free Video Quality Predictor", International Workshop on Multimedia Signal Processing, 2008.

A. Rossholm, B. Lövström, "A New Video Quality Predictor based on Decoder Parameter Extraction", International Conference on Signal Processing and Multimedia Applications, 2008.

A. Rossholm, B. Lövström, K. Andersson, "Low-Complex Adaptive Post Filter for Enhancement of Coded Video", International Symposium on Signal Processing and its Applications, 2007.

U. Engelke, A Rossholm, H.-J. Zepernick, B. Lövström, "Quality Assessment of an Adaptive Filter for Artifact Reduction in Mobile Video Sequences", International Symposium on Wireless Pervasive Computing, 2007.

F. Sattar, L. Floreby, G. Salomonsson, B. Lovstrom, "Image enhancement based on a nonlinear multiscale method", IEEE Transactions on Image Processing, 1997.

B. Lövström, "Detection of Specular Echoes by Split Spectrum Processing", IX:th Nordic Meeting on Medical and Biological Engineering, Lund, 1993.

F. Bietrix, B. Lovstrom, G. Salomonsson, "Enhancement of ultrasound images by multiscale analysis", Proceedings of the IEEE-SP International Symposium Time-Frequency and Time-Scale Analysis, 1992.

B. Lövström, "Ultrasonic Signal Processing – Attenuation Estimation and Image Enhancement", Ph.D. thesis, LTH, Lund, 1992.

F. Sattar, B. Lovstrom, B. Mandersson, G. Salomonsson "Estimation Of Evoked Potentials By Using A Bandpass Filter Bank", Proceedings of the International Conference of the IEEE Engineering in Medicine and Biology Society, 1991.

L. Björkman, B. Lövström, "Restoring Image Resolution by Wiener Filtering using FIR Filters", Signal Processing Report SPR-3, LTH, 1988.

G. Salomonsson, B. Lövström, "Analysis of a System for Ultrasonic Imaging of Attenuation and Texture in Soft Tissue", Ultrasonic Imaging, 1985.

I. Claesson, B. Lövström, "A Comparison of Estimation Methods for Ultrasonic Attenuation Imaging", Technical Report TR-185, LTH, 1984.

A. Jönsson, P. O. Börjesson, M. L. Cedervall, K. Erlansson, B. Lövström, "Digital videoprocessor för brusreducering och kontrastförstärkning av röntgenbilder", Läkaresällskapets Riksstämma, 1983.

Citations (according to Google Scholar 2022-09-26)

	All	Since 2017
Citations	864	397
h-index	10	8
i10-index	12	7

Citations per year 2000-2022: