

CV – Björn Gambäck

Personal information

First name, Surname:	Björn, Gambäck		
Date of birth:	13 February 1964	Sex:	Male
Nationality:	Swedish		
Researcher unique identifier(s) :	https://orcid.org/0000-0002-5252-707X		
Professional website:	https://www.ntnu.edu/employees/gamback		
Publications:	https://scholar.google.se/citations?hl=sv&user=fMW2g6UAAAAJ https://www.researchgate.net/profile/Bjoern-Gambaeck https://www.semanticscholar.org/author/Björn-Gambäck/1887897		

Education

Year	Faculty/department - University/institution – Country
1997	PhD, Computer and Systems Sciences – Royal Institute of Technology/KTH – Sweden
1992	MSc, Computer Science and Engineering – Royal Institute of Technology/KTH – Sweden

Positions - current and previous

Year	Job title – Employer - Country
2008-	Professor in Language Technology – Dpt of Computer Science (IDI), NTNU - Norway
2017-2022	Senior Advisor – Research Institutes of Sweden AB (RISE) – Sweden
2012-2017	Senior Research Expert – SICS/Swedish ICT Research AB – Sweden
1989-2012	Senior Research Expert – Swedish Institute of Computer Science AB (SICS) – Sweden
2004	Lecturer – School of Information Studies for Africa, Addis Ababa University – Ethiopia
1997-1999	Professor in Computational Linguistics – Dpt of General Linguistics, University of Helsinki, Finland
1997-1998	Senior researcher/team leader – Centre for Speech Technology, Dpt of Speech, Music and Hearing, Royal Institute of Technology/KTH – Sweden
1995-1996	Senior researcher/team leader – Dpt of Computational Linguistics, Universität des Saarlandes, Saarbrücken (USB) – Germany

Project management experience

Year	Project owner - Project - Role - Funder
2013-2020	University of Oslo - Linguistic Capacity Building: tools for the inclusive development of Ethiopia – NTNU Principal Investigator - Norad (Norwegian Agency for Development Cooperation)/NORHED
2014-2017	Masaryk University, Brno – HaBiT: Harvesting Big Text Data for Under-Resourced Languages – NTNU Principal Investigator - Norwegian Research Council (EES/CZE-NOR)
2010-2012	ILSP Athena R.C., Athens – PRESEMT: Pattern REcognition-based Statistically Enhanced Machine Translation– NTNU Principal Investigator - EC FP7
2006-2010	University of Sheffield – COMPANIONS: Intelligent, Persistent, Personalised Multimodal Interfaces to the Internet– SICS Principal Investigator - EC FP6 Integrated Project
2005-2006	SICS AB – EVERGROW: Ever-growing global scale-free networks, their provisioning, repair and unique functions – Coordinator - EC FP6 Integrated Project
2007-2009	KTH/SICS – Language processing resources for under-resourced languages 2 – SICS Project leader – Sida (Swedish International Development Cooperation Agency)/SPIDER
2005-2006	KTH/SICS – Language processing resources for under-resourced languages – SICS Project leader – Sida (Swedish International Development Cooperation Agency)/SPIDER
2001-2004	SICS AB – DUMAS: Dynamic Universal Mobility for Adaptive Speech Interfaces – Coordinator - EC FP5
2000-2001	ERICIM, Sophia Antipolis – Scholnet: A Digital Library Testbed to support Networked Scholarly Communities – SICS Principal Investigator - EC FP5
1998-1999	SICS AB – svenska: språkteknologi för svenska – Project leader – Nutek (Swedish National Board for Industrial and Technical Development)
1996-1997	SICS – SVENSK: A Platform for Reusing Swedish Language Processing Resources – Project leader – Nutek (Swedish National Board for Industrial and Technical Development)
1995-1996	DFKI, Saarbrücken – Verbmobil: Translation of Spontaneous Speech – Semantic construction project leader – BMBF (Federal Ministry of Research and Technology, GER)
1992-1994	Ericsson Development AB – VINST: Visual and Natural language Specification Tool - SICS Principal Investigator – Ericsson Telecom AB
1993-1994	Telia Research AB – PROSIT: Prosody driven speech synthesis - SICS Principal Investigator – Telia Research AB
1991-1993	Telia Research AB – SLT: Spoken Language Translator - SICS Principal Investigator – Telia Networks AB
1990-1991	SICS / SRI Cambridge – BCI: Bilingual Conversation Interpreter – SICS Project leader – SICS

Supervision of students

Master's students	Ph.D. students	University/institution – Country
147	7	NTNU– Norway; Helsinki University – Finland; Addis Ababa University, Ethiopia; KTH, Stockholm University, Uppsala University, Linköping University, Gothenburg University – Sweden

Other relevant professional experiences

Year	Description - Role
2019 -	Member of NTNU research team at the Norwegian Open AI Lab, Norway
2018	Member of the board at RISE SICS AB, Sweden
2015-2017	Head of European Collaboration, SICS/Swedish ICT Research AB, Sweden
2006-2008	Member of the board at SICT AB, Sweden
2005-2007	Member of the Swedish standard committee for terminology and language resources
2004-2008	Member of the board at SICS AB, Sweden
1998-2001	Head of Information and Language Engineering, Swedish Institute of Computer Science AB (SICS), Sweden

Track record

Publications: over 200 refereed papers in journals, books and archival proceedings.

H-index: 28, i10-index: 70, total scholar citations: 3856; 1999 since 2017 ([according to Google Scholar](#))

1. Research monographs and any translations thereof

- Mesfin Sileshi Ambaye and Björn Gambäck. 2009. *Effectiveness of Content-Based Image Clustering Algorithms*. VDM, Verlag Dr. Müller, Saarbrücken, Germany.
- Hiyan Alshawi, Björn Gambäck, et al. 1992. *The Core Language Engine*. 1992. MIT Press

2. Invited presentations to internationally established conferences

- Björn Gambäck. 2014: Computational linguistic creativity: The ultimate artificial intelligence challenge or (already/soon) state-of-the-art? In Learning to explore Business Intelligence: 2nd International Conference on Mining Intelligence and Knowledge Exploration, University College Cork, Ireland.
- Björn Gambäck. 2015: Computational linguistic capacity building: Creating and collecting language processing tools and resources for under-resourced languages. In 7th Forum for Information Retrieval Evaluation, Gandhinagar, India.

3. Organisation of international conferences and workshops

- Workshop on Companionable Dialogue Systems. Association of Computational Linguistics, Uppsala, Sweden, 2010, with Yorick Wilks and Morena Danieli.
- Workshop on Robust and Adaptive Information Processing for Mobile Speech Interfaces, International Committee on Computational Linguistics, Geneva, Switzerland, 2004, with Kristiina Jokinen.

4. Prizes, awards, academy memberships;

- Member Association for Computational Linguistics.

5. Major contributions to the early careers of excellent researchers;

PhD supervision as above.

6. Examples of leadership in industrial innovation or design.

All work at SICS and RISE (see above) has been driven by industrial innovation and design.

7. Ten selected publications with citations from Google Scholar (G) :

Publication	G	Comment
The Core Language Engine. 1992. Hiyan Alshawi, Björn Gambäck, et al. MIT Press.	699	Highly cited book on logic-driven language processing and generation technology
Using convolutional neural networks to classify hate-speech. Björn Gambäck & Utpal Kumar Sikdar Association for Computational Linguistics	467	First usage for abusive language classification of Convolutional Neural Networks (CNN), a deep-learning strategy more commonly applied to image processing
SemEval-2020 Task 8: Memotion Analysis – The Visuo-Lingual Metaphor. 2020. Chhavi Sharma, Björn Gambäck, et al. Association for Computational Linguistics	67	First shared task on detection and classification of emotions in memes, combining images and text to analyse humour, sarcasm, sentiment, etc., in memes.
Poetic Machine: Computational Creativity for Automatic Poetry Generation in Bengali. 2014. Amitava Das & Björn Gambäck Association for Computational Creativity	50	Initial study on computational poetry generation for Bengali evaluated according to poeticness, meaningfulness and grammaticality.
Deep Learning-based Poetry Generation Given Visual Input. 2018. Malte Loller-Andersen & Björn Gambäck Association for Computational Creativity	10	Generation of poetry satisfying rhythmical and rhyming constraints from an input image, using a CNN for image classification and a Long Short-Term Memory (LSTM) neural network trained on a song lyrics for language generation
Co-evolving melodies and harmonization in evolutionary music composition. 2018. Olav Olseng & Björn Gambäck EvoMUSART, Springer.	6	Multi-objective evolutionary algorithm used to generate short musical ideas consisting of a melody and abstract harmonization, developed in tandem. Int. Conf. Comp. Intelligence in Music, Sound, Art and Design
Generative solid modelling employing natural language understanding and 3D data. 2018. Marinos Koutsomichalis & Björn Gambäck EvoMUSART, Springer.	6	Generation of 3D-printable models inspired by arbitrary textual input, capturing the main message of the texts in the form of 3D art. Int. Conf. Comp. Intelligence in Music, Sound, Art and Design
Interactive, Efficient and Creative Image Generation Using Compositional Pattern-Producing Networks. 2021. Erlend Gjesteland Ekern & Björn Gambäck EvoMUSART, Springer.	2	Generation of images one pixel at a time (rather than the entire image at once) using a Compositional Pattern-Producing Network (CPPN) as the generator in a Generative Adversarial Network (GAN), allowing for effective generation of visually interesting images with artistic value, at arbitrary resolutions. Int. Conf. Comp. Intelligence in Music, Sound, Art and Design
The Image Artist: Computer Generated Art Based on Musical Input. 2018. Malte Loller-Andersen & Björn Gambäck Association for Computational Creativity	2	Computer-generated art based on musical input, using evolutionary algorithms for a music-to-image transformation operating on music and image metadata and features, rather than raw data.
Music Style Transfer Using Constant-Q Transform Spectrograms. 2022. Tyler McAllister & Björn Gambäck EvoMUSART, Springer.	1	Selective music remixing using domain transfer methods on spectrogram images. Utilising two GANs, one performing style transfer by applying genre features to constant-Q transform spectrogram images and one turning spectrograms into a real-value tensors to reconstruct back into audio. Int. Conf. Comp. Intelligence in Music, Sound, Art and Design