Curriculum Vitae - Max Welling

Max Welling	Email: m.welling@uva.nl
Informatics Institute	URL: http://www.ics.uci.edu/∼welling/
University of Amsterdam	Phone: +31 20 525 8256
Science Park 904	Room C3.259
Amsterdam, 1098 XH	Netherlands

December 26, 2015

Education

1987-1993 Utrecht University Utrecht, Netherlands
BA physics Supervisor: Prof. G. 't Hooft
Thesis: Asymptotically Flat Universes have Positive Total Energy.
Date received: Aug.30 1993

1993-1998 Utrecht University Utrecht, Netherlands
PhD physics Supervisor: Prof. G. 't Hooft
Thesis: Gravity in 2+1 Dimensions.
Date received: Jan.19 1998

Employment

1998-2000 Caltech, Pasadena, USA
Computational Vision Lab
Postdoctoral Fellow
Supervisor: Prof. P. Perona

2000-2001 University College London, UK
Gatsby Computational Neuroscience Unit
Postdoctoral Fellow
Supervisor: Prof. G.E. Hinton

2001-2003 University of Toronto, Canada
Department of Computer Science
Postdoctoral Fellow
Supervisor: Prof. G.E. Hinton

Oct.03- Jun.06 UC Irvine, USA
School of Information and Computer Science
Assistant Professor

2006-2012 UC Irvine, USA
School of Information and Computer Science
Associate Director Center for Machine Learning and Intelligent Systems

July 06 UC Irvine, USA
School of Information and Computer Science
Associate Professor with tenure

Sep.07- Aug.08	Radboud University, Nijmegen, Netherlands Department of Biophysics Visiting Professor on sabbatical from UC Irvine	
2008	Julius Finance/Benchmark Solutions, New York USA Member Technical Advisory Board	
July 08-now	UC Irvine, USA School of Information and Computer Science Joint Appointment" at the Dept. of Statistics	
July 09-now	UC Irvine, USA School of Information and Computer Science Full Professor	
2010	M&M Trading, Newport Beach Consultant	
2010-2012	Identity Metrics, Aliso Viejo Consultant	
Sept. 2012-	University of Amsterdam (UvA), Netherlands "Hoogleraar" (Full Professor and Research Chair)	
2013-now	Google Deepmind, London, UK Consultant	
Nov. 2013-now	University of Amsterdam Director of the Master AI	
Jan. 2015-now	University of Amsterdam Board member of the Amsterdam Data Science	
May 2015-now	Canadian Institute of Advanced Research Senior Fellow	
May 2015-now	QUVA Qualcomm-UvA Lab Co-Director	

Companies

Jan. 2013	Scyfer	Amsterdam, NL

Teaching

1987-1998 Assistant	Utrecht University Physics for biologists Statistical mechanics Analysis and algebra Quantum mechanics Electrodynamics Classical mechanics	Utrecht, Netherlands
2000	Caltech, Pasadena	

spring 00	Learning Systems
2001	University College London
fall 01	Unsupervised Learning
2004-2012	University of California Irvine
winter 04	ICS-280, Learning in Graphical Models (new)
spring 04	ICS-6A, Discrete Mathematics
fall 04	ICS-279, Perfect Sampling
winter 05	ICS-273B, Kernel-Based Learning (new)
spring 05	ICS-6A, Discrete Mathematics
fall 05	ICS-171, Intro Artificial Intelligence
winter 06	ICS-171 Intro Artificial Intelligence
spring 06	ICS-274B Learning in Graphical Models
fall 06	ICS-273A Intro Machine Learning (new)
winter 07	ICS-178 Intro Machine Learning and Data Mining (new)
spring 07	ICS-171 Intro Artificial Intelligence
fall 08	ICS-295, Research Project in AI
fall 08	ICS-171, Intro Artificial IntelligenceI
winter 08	ICS-171, Intro Artificial Intelligence
spring 09	ICS-273A, Intro Machine Learning
fall 09	ICS-171, Intro AI
fall 09	ICS-271, Intro AI
spring 10	ICS-273A, Intro Machine Learning
fall 10	CS-171, Intro AI
winter 11	CS-175, Project in AI
winter 11	CS-273A, Intro Machine Learning
fall 12	CS-273A, Intro Machine Learning
winter 12	CS-175, Project in AI
winter 12	CS-77B Collaborative Filtering
2012-now	University of Amsterdam / Amsterdam University College
winter-spring 13	Machine Learning (AUC)
fall 13	Machine Learning: Pattern Recognition (UVA)
fall 13	Machine Learning: Principles and Methods (UVA)
fall 14	Machine Learning I (UvA)
winter 15	Machine Learning: Principles and Methods (UVA)
spring 15	Machine Learning II (UvA)
fall 15	Machine Learning I (UvA)

Invited Talks

(after Mar. 2003)

Mar.19 2003 UC Irvine USA
Propagation Algorithms for Probabilistic Inference in Graphical Models with Cycles

Apr.7 2003 UC San Diego USA
Propagation Algorithms for Probabilistic Inference in Graphical Models with Cycles

Apr.21 2003 Carnegie Mellon U. USA
Propagation Algorithms for Probabilistic Inference in Graphical Models

with Cycles

30 Sept. 2003 University of Montreal Canada
Extreme Components Analysis and Under-complete Products of Experts

Nov.17 2003 UC Los Angeles USA
Learning the Statistics of Natural Images with Products of Experts

Dec.12 2003 Whistler Canada
Workshop: Robust Communication Dynamics in Complex Networks
On the Choice of Clusters for Generalized Belief Propagation

Feb.27 2004 Caltech-Pasadena USA
On the Choice of Clusters for Generalized Belief Propagation

Mar.23 2004 Caltech-Pasadena USA
Trends in Machine Learning

Apr.01 2004 UC Berkeley USA
On the Choice of Clusters for Generalized Belief Propagation

Jul.22 2004 Radboud U. Nijmegen Netherlands
On the Choice of Clusters for Generalized Belief Propagation

Jul.28 2004 University of Edinburgh U.K.
Approximate Inference Algorithms based on Loopy Belief Propagation

Nov.08 2004 Caltech-Pasadena USA
Graphical Models: The New Paradigm for Probabilistic Modelling

Nov.24 2004 Stanford University USA
Modelling and Denoising Digital Images using Products of "Edge-perts" Models

Dec.16 2004 Vancouver (NIPS conf.) Canada
Exponential Family Harmoniums with an Application to Information Retrieval

Jan.8 2005 Barbados (AISTATS)
Robust Higher Order Statistics

Mar.30 2005 Caltech-Pasadena USA
Structured Region Graphs

Apr.4 2005 Brown University USA
Understanding and Designing Message Passing Algorithms
for Approximate Inference in Graphical Models

May.23 2005 UC Riverside USA
Inferring Offset-Normal Shape Distributions Using EM

Jul.18 2005 Max Planck Inst. Tübingen, Germany
Tuning Fisher Kernels from Ensembles of Generative Models
for Object Class Recognition

Aug.7 2005 Minneapolis (JSM) USA

Inferring Parameters and Structure of Markov Random Field Models

Dec.6 2005 Vancouver (CIAR) Canada
Energy-Based Information Retrieval and Object Recognition

Feb.10 2006 San Diego USA
Inaugural workshop - Information Theory and Applications
Structured region graphs: a general framework for message passing algorithms

Jun.30 2006 Pittsburgh USA
ICML workshop on Nonparametric methods
Flexible Priors for Infinite Mixture Models

Jul.16 2006 Cambridge, MA (MIT) USA
Conference on Uncertainty in Artificial Intelligence
Bayesian Random Fields: The Bethe-Laplace Approximation

Aug.3 2006 University Groningen Netherlands
Tuning Fisher Kernels from Ensembles of Generative Models
for Object Class Recognition

Aug.8 2006 University Maastricht Netherlands
Bayesian Random Fields: The Bethe-Laplace Approximation

Oct.10 2006 Caltech-Pasadena USA
Kickoff meeting ONR MURI grant
Learning Visual Object Class Taxonomies

Feb.01 2007 UCSD USA
Nonparametric Bayesian Matrix Factorization

July 13 2007 Microsoft USA
Nonparametric Bayesian Graphical Models

July.17 2007 University of Washington USA
Developments in Nonparametric Bayesian Modeling and Inference

Sept.20 2007 Radboud U. Biophysics Netherlands
Developments in Nonparametric Bayesian Modeling and Inference

Nov.12 2007 Radboud U. CS Dept. Netherlands
Visual Object Recognition by Probabilistic Inference

Dec.06 2007 Workshop Deep Learning Vancouver, US
Hierarchical Representations from networks of HDPs

Jan.08 2008 Technical University Delft Netherlands
Object Recognition by Hybrid Generative Discriminative Approaches

Mar.03 2008 University of Toronto Canada
Six Ways to Improve Inference for Bayesian Networks

Mar.25 2008 University of Amsterdam Netherlands
Infinite State Bayesian Networks

Apr.17 2008 Netherlands Institute of Forensics Netherlands
Statistical Analysis of AFIS Fingerprint Matching

Apr.21 2008 Gatsby Computational Neuroscience Unit, UCL London, UK
Six Ways to Improve Inference for Bayesian Networks

Apr.30 2008 Max Planck Institute for Cybernetics Tübingen, DE
Unsupervised Learning of Visual Taxonomies

May 05 2008 ETH Zürich, Switzerland
Unsupervised Learning of Visual Taxonomies

April 14 2009 Clearwater Florida
On Herding Dynamical Weights and Fractal Geometry
Invited Speech Snowbird Learning Workshop

April 20 2009 UC Irvine CA
On Herding Dynamical Weights and Fractal Attractors
AIML Seminar Series

May 04 2009 Princeton US
Herding Dynamical Synapses to Learn

June 16 2009 Montreal – ICML, CAN
Herding Dynamical Synapses to Learn
contributed talk

June 18 2009 Montreal, CAN
Learning to Herd and Herding to Learn
ICML 2009 Workshop on Learning Feature Hierarchies (invited)

June 23 2009 Tilburg Netherlands
Discovering Preferences and Constraints using Extreme Components Analysis
Invited Talk Symposium on Dimensionality Reduction

Aug. 13 2009 Nijmegen Netherlands
Herding Dynamic Weights for Partially Observed Random Field Models

Oct. 16 2009 Math Dept. UCI
A weakly chaotic dynamical system driven by observations

Feb. 01 2010 UC Riverside
Modeling Data with Weakly Chaotic Nonlinear Dynamical Systems

Feb. 04 2010 Information Theory Applications Workshop San Diego
Learning and Compression with Weakly Chaotic Systems

Mar. 10 2010 Int'l Workshop On Statistical-Mechanical Informatics Kyoto
Learning and Compression with Weakly Chaotic Systems

Mar. 12 2010 University of Tokyo
Learning and Compression with Weakly Chaotic Systems

Mar. 19 2010 Georgia Tech Atlanta
Statistical Inference using Weak Chaos and Infinite Memory

Aug. 27 2010 Centrum Wiskunde Informatica, Amsterdam
Herding: Learning with Weakly Chaotic Nonlinear Dynamical Systems

Sep. 17 2010 UC Merced
Herding: Learning with Weakly Chaotic Nonlinear Dynamical Systems

Dec. 2 2010 Arlington, VA ONR-MURI Grant meeting
Kingman's Coalescent for Image Taxonimization

Dec. 5 2010 Vacouver, BC CIFAR meeting
Learning Nonparametric Hierarchies from Image Data

Dec.10 2010 Whistler, BC NIPS Workshops
Distributed Gibbs sampling for Topic Models and Bayesian Networks

Mar. 14 2011 Workshop: "All Models are Wrong" , Groningen, Netherlands
The Nonlinear Dynamics of Learning

Mar. 17 2011 Rijksuniversiteit Groningen , Netherlands
Herding: Learning, Computation, Chaos

Mar. 21 2011 Cambridge University UK
Herding: Learning with Weakly Chaotic Nonlinear Dynamical Systems

June. 17 2011 Machine Learning Summer School , Singapore
Learning in Markov Random Fields

Sept. 05 2011 CIMAT Workshop, Guanajuato, Mexico
Learning in Markov Random Fields

Dec 11 2011 CIFAR Workshop, Granada, Spain
Bayesian Posterior Sampling with Stochastic Gradients

Dec 21 2011 University of Amsterdam, Netherlands
Three Ways to Scale up MCMC Sampling for Statistical Inference

Jan 04 2012 ID Analytics, San Diego
Learning and Sampling with Stochastic Gradients

Feb 09 2012 Workshop on Information Theory and Applications (ITA), San Diego
Exchangeable but Inconsistent Priors for Bayesian Posterior Inference

Mar 27 2012 Purdue University, Purdue
Bayesian Posterior Sampling using Stochastic Gradients

Apr 19 2012 Los Alamos National Labs, NM
Improving Belief Propagation with Cycle Bases and Cluster Cumulants

Apr 23 2012 IEEE-OCCS
Machine Learning and the Big Data Challenge

May 2 2012 Google, Mountain View
Bayesian Posterior Sampling using Stochastic Gradients for "Big Data" Analysis

May 3 2012 Yahoo!, Sunnyvale
Bayesian Posterior Sampling using Stochastic Gradients for "Big Data" Analysis

May 16 2012 Caltech
Bayesian Posterior Sampling using Stochastic Gradients

Oct. 16 2012 UvA, IvI
From Physics to Informatics: The Statistical Mechanics of Graphical Models

Oct. 19 2012 UvA, KdV
Bayesian Posterior Sampling using Stochastic Gradients

Nov. 23 2012 UvA, IvI
Learning with Weakly Chaotic Nonlinear Dynamical Systems

Dec. 02 2012 CIFAR meeting
MCMC with stochastic gradients

Dec. 08 2012 NIPS, Lake Tahoe, CA, USA
Herding dynamical weights to learn

Mar. 25 2013 Oxford University, UK
Austerity in MCMC Land: Cutting the Computational Budget

Mar. 27 2013 Cambridge University, UK
Austerity in MCMC Land: Cutting the Computational Budget

May 04 2013 ICLR Conference (invited)
Austerity in MCMC Land: Cutting the Computational Budget

May 08 2013 Caltech
Austerity in MCMC Land: Cutting the Computational Budget

May 13 2013 U. Postdam, Germany
Austerity in MCMC Land: Cutting the Computational Budget

May 21 2013 UvA, Netherlands
Austerity in MCMC Land: Cutting the Computational Budget

Dec. 3 2013 CIFAR NCAP, San Francisco, USA
Bayesian posterior inference when your model is a very expensive simulation

Dec. 9 2013 NIPS Workshops, Lake Tahoe, USA
Minibatch Based Bayesian Posterior Inference

Jan. 29 2014 Inaugural Speech, Amsterdam, NL
Van veel data, snelle computers en complexe modellen tot zelflerende machines

March. 19 2014 Universiteit Delft, NL
Being a Big Data Bayesian

April. 16 2014 UT Austin, TX, USA
Symposium on Advanced Scientific Computation
MCMC for Big Data

May. 28 2014 Edinburgh, UK
Bayes in the Age of Big Data

June 17 2014 ASCOR Meeting, Amsterdam, NL
Big Data, Graphical Models and Inference for the Social Sciences

July 13 2014 ANed/BMS Meeting, The Hague, NL
Some Machine Learning Tools for "Omics Data"

July 21 2014 Beijing, China
Tutorial: Bayesian Inference in the Big Data Arena

July 31 2014 Qualcomm, San Diego, US
Deep Generative Modeling

Oct 09 2014 Facebook, New York, US
Deep Generative Models

Oct 16 2014 Amazon, Berlin, DE
Learning Deep Disentangled Representations

Nov 27 2014 Congres Innovatie aan Zee, Scheveningen, NL
Artificial Intelligence and Big Data: An Explosive Mix?

Dec 7 2014 CIFAR NCAP, Montreal, CAN
The Revenge of the Helmholtz Machines

Jan 22 2015 NOS, Hilversum, NL
Machine Learning for the NOS

Feb 04 2015 NEDAP, Groenlo, NL
Big Data and Deep Learning, A Powerful Mix

Feb 12 2015 Philips, Eindhoven, NL
Big Data and Deep Learning, A Powerful Mix

Feb 19 2015 Hebrew University of Jerusalem, Israel
Uncertainty in Artificial Intelligence: Theory and Large Scale Applications
The Return of the Helmholtz Machines

April 15 2015 Gatsby Unit, UCL, UK
Bayesian Inference in Complex Generative Models

May 19 2015 TU München, DE
Approximate Bayesian Computation with Noisy Gradients:
From Big Data to Complex Simulations

May 22 2015 iLike Workshop, Bristol UK
Approximate Bayesian Computation with Noisy Gradients:

From Big Data to Complex Simulations

Aug 21 2015 UC Irvine
The Return of the Helmholtz Machines

Sept 02 2015 SNS Bank
Kunstmatige Intelligentie
Hoe slimme systemen de maatschappij zullen transformeren

Sept 14 2015 Philips
Machine Learning, A Transformative Force

Sept 24 2015 Deep Learning Summit, London
Challenges for Deep Learning in Healthcare

Sept 29 2015 eHealth Conference Amsterdam
Machine Learning for Healthcare

Oct. 08 2015 keynote GCPR Conference, Aachen
Learning to Generate

Oct. 15 2015 Symposium Big Data Amsterdam
Machine Learning
(and how it connects to you)
Oct. 16 2015 Deloitte
Kunstmatige Intelligentie,
Hoe slimme systemen de maatschappij zullen transformeren

Oct. 19 2015 Tubingen
Learning to Generate

Oct. 21 2015 Bosch, Renningen
Machine Learning and Deep Learning in Amsterdam

Oct. 22 2015 Heidelberg
Disentangling Deep Representations

Oct. 30 2015 Neuro-Imaging meeting Utrecht
Deep Models for Neuro Imaging

Nov. 03 2015 EDA Workshop Brussels
Deep Learning

Dec. 05 2015 CIFAR Workshop Montreal
Group-Equivariant Convolutional Networks

Dec. 11 2015 Probabilistic Integration Workshop, NIPS, Montreal
Optimization Monte Carlo

Media

2 feb. 2013 NRC Opinie
"Open access wel degelijk belangrijk in economie"
18 juni 2013 NRC Opinie
"Mijn data mogen ze hebben hoor"

29 juni 2013	Pavlov "Nergens meer onbespied" (Radio)
4 feb. 2014	De Kennis van Nu Interview over "Lerende Machines" (Radio)
6 sep. 2014	Folia / Parool "Big data hoeven privacy niet aan te tasten"
26 sep. 2014	Computable "Hoe ontrafelen we 'wat' en 'waar' in videobeelden?"
22 dec. 2014	ASTRON Newsletter "When saving all the data captured by the antennas is simply not an option"
10 jan. 2015	Parool "Een computer met een mensenbrein"
22 jan. 2015	I/O Magazine "Natuurlijke en kunstmatige intelligentie: dubbel zo slim"
23 jan. 2015	De Ingenieur "Lerende computer-neuronen"
25 juni 2015	Interview in NRC-Q "Waarom Facebook en Google jouw brein willen namaken"
7 juli 2015	Interview in Het Financiele Dagblad "Afgestudeerde econometrist heeft de banen nu voor het uitzoeken"
28 juli 2015	19:30 RTL Nieuws Interview over Gevaren AI
22 aug. 2015	Artikel in Het Financiele Dagblad "Flexibel werken en voor ieder een basisinkomen"
26 sep. 2015	Artikel in Het Financiele Dagblad "Deep Learning maakt ons bestaan smarter en kwetsbaarder"
24 dec. 2015	VPRO Marathoninterview door Jelle Brandt Corstius

Grants

1998-2000 Caltech Vision Lab Pasadena, USA
Sloan Postdoctoral Fellowship
$21,794 annually

Dec. 2003 UC Irvine Irvine, USA
ICS - Faculty Research and Travel Funds for the Council on Research
$3000

Dec. 2004 UC Irvine Irvine, USA
ICS - Faculty Research and Travel Funds for the Council on Research
$3000

3/15/05-2/28/10 NSF-Career
Undirected Bipartite Graphical Models
IIS 0447903, $450,000

8/1/05-7/31/08 NSF Collaborative Research
Joint with Perona at Caltech
Learning Taxonomies of the Visual World
IIS-0535278 $162,805

Dec. 2005 UC Irvine Irvine, USA
ICS - Faculty Research and Travel Funds for the Council on Research

$5000

5/1/06-9/30/09 ONR-MURI
Joint with UCB, CIT, MIT, UCLA, UIUC, Oxford U.
Learning to Recognize for Visual Surveillance
$ 185,000

Dec. 2006 UC Irvine Irvine, USA
ICS - Faculty Research and Travel Funds for the Council on Research
$2000

Aug. 2007 Nijmegen Netherlands
Visiting Professor Grant
Euro 21,780 Dutch Science Foundation (NWO)

Mar. 2008 Dean's Mid-Career Award for Research
Donald Bren School of Information and Computer Science
UC Irvine
$ 500

Dec. 2008 Proposal for Collaborative Research Initiation Award (CRIA)
Newborn Intensive Care Exercise Therapy Activity Recognition
UC Irvine
$13,181

May 2009 Ted and Janice Smith Faculty Seed Fund 2009
Computationally-Aware Learning for Visual Recognition
UC Irvine
$5,000

Sep. 2009 NSF PRISM Grant
Joint with Jack Xin, Hong-Kai Zhao, Sarah Frey (Math Dept.)
UCI Interdisciplinary computational and applied mathematics program
UC Irvine
IIS-0928427 $1,950,568

Sep. 2009 NSF Collaborative Grant
Joint with Perona at Caltech
Infinite Bayesian Networks for Hierarchical Visual Categorization
UC Irvine
IIS-0914783, $300,000

Sept. 2009 NIH/NCI GO Grant
Joint with Lowengrub, Lander, Kolmorova, Lee, Wodartz
Feedback, lineages and cancer: A multidisciplinary approach
1RC2CA148493-01: $2,033,332

Sept. 2010 NSF Collaborative Grant
Joint with A. Goredetski (math)
Nonlinear Dynamical System Theory for Machine Learning
IIS-1018433, $450,000

Sept. 2012 NSF Grant
Joint with B. Shahbaba

Efficient Bayesian Learning from Stochastic Gradients
IIS-1216045, $500,000

May 2013 NWO Grant - Vrije Competitie
Chaos for Efficient Statistical Inference and Simulation
230,000 Euro

June 2013 Yahoo! Faculty Award
Evaluating the feasibility of nonparametric Bayesian models
for large scale online recommendation systems
$ 20,000

June 2014 Facebook Research Award
Deep Learning Research
$ 50,000

May 2014 NWO Grant- Big Bang Big Data
Beyond Compressive Sensing: Learning Radio-Interferometric Image Reconstruction
230,000 Euro

Sept 2014 NWO Grant- Natural AI
LeArning the Fundamental Symmetries in video data
217,000 Euro

April 2015 Google faculty Research Award
Symmetries, Synthesis and Semi-Supervision for
Improving Statistical Efficiency of Deep Learning
200,000 dollar

April 2015 NWO KIEM
MRI Biomarker Discovery through Deep Learning
94,000 euro

June 2015 SAP Sponsored Research
Deep Collaborative Clustering and Prediction
400,000

Sept 2015 TNO Sponsored Research
Multiview Deep Learning
204,000

Awards

Mar. 2005 NSF Career Award
Mar. 2008 Dean's Mid-Career Award for Research
Sept. 2010 ECCV Koenderink Prize
Dec. 2012 ICML Best Paper Award

Memberships

Dec. 2010 Member of the Neural Computation and Adaptive Perception Program
Canadian Institute for Advanced Research

Apr. 2015 Fellow of the Neural Computation and Adaptive Perception Program
Canadian Institute for Advanced Research

Institutional Service

04-06	Academic Senate Assembly Representative, UC Irvine
04-06	Educational Policy Committee, CS Dept. UCI
06/07	Executive committee
06/07	Bio-informatics recruitment committee.
09/10	Chair Hayes Tenure Committee
09/10	Graduate Recruitment Committee
09-11	CS Student Outreach, Access, and Retention Committee
09/10	Advisory Committee to the dean for selecting the next chair
10-12	Campus-wide Honors Program Board
10/11	CS Communications Committee
11/12	Executive committee

Professional Service

Executive Board:
2015-now Neural Information Processing Systems (NIPS)

Associate Editor in Chief:
2011-2015 IEEE Transactions on Pattern Analysis and Machine Intelligence

Program Chair:
Program Chair, Int'l Conf. Artificial Intelligence and Statistics, AISTATS (2009)
Program Chair, Conference on Neural Information Processing Systems, NIPS (2013)
Program Chair, European Conference on Computer Vision, ECCV (2016)

Conference Chair:
Tutorials Chair, International Conference on Machine Learning, ICML (2007)
Senior Advisory Board, Int'l Confl on Artificial Intelligence and Statistics, AISTATS (2010)
Tutorials Chair, Conference on Neural Information Processing Systems, NIPS (2011)
General Chair, Conference on Neural Information Processing Systems, NIPS (2014)

Workshop Organizer:
Inference and Learning, Gatsby Unit, UCL (2001)
Propagation Algorithms on Graphs with Cycles: Theory and Applications NIPS (2002)
First Southern California Workshop on Machine Learning, SoCaML (2011)
ABC in Montreal, NIPS (2014)
Deep Learning Workshop, ICML (2015)
Deep Learning Symposium, NIPS (2015)
Scalable Monte Carlo Methods for Bayesian Analysis of Big Data, NIPS (2015)

Associate (Action) Editor:
2004-2007 Neurocomputing
2007-2009 Journal of Computational and Graphical Statistics
2007-2011 IEEE Transactions on Pattern Analysis and Machine Intelligence

Member Editorial Board:

2009-	Journal Machine Learning Research
2010-	Machine Learning Journal
2014-	Neural Computation

Senior Program Committee (a.k.a. area chair):
Conference on Uncertainty in Artificial Intelligence (2006)
International Conference on Machine Learning (2008)
Conference on Neural Information Processing Systems (2008)

Outside Letter Writer for Promotions
2009 (1)
2010 (1)
2011 (2)
2012 (2)
2013 (1)
2014 (1)

Grant Reviewing/Panels:
Mar. 2007: NSF-RI/IIS Panel
Feb. 2009: NSF-RI/IIS Medium Size Proposals Panel
Oct. 2009 NSF-IIS/Career Panel
Oct. 2010 NSF-IIS/Career Panel
Jan. 2011 ARO grant review
Oct. 2011 NSF-IIS/Career grant review
Jan. 2014 NWO-IPPSI-TA (chair review panel)

Reviewing (conferences):
Neural Information Processing Systems (2002,2003,2004,2006,2009,2010)
International Conference on Machine Learning (2004,2006,2012)
Workshop on Artificial Intelligence and Statistics (2005,2007,2010,2011,2012)
Conference on Uncertainty in Artificial Intelligence (2005,2006,2007,2011,2012)

Reviewing (journals):
Neural Computation
Journal Machine Learning Research
IEEE Transactions on Signal Processing
IEEE Transactions on Pattern Analysis and Machine Intelligence
IEEE Transactions on Information Theory
IEEE Transactions on Image Processing
IEEE Transactions on Audio, Speech and Language Processing
International Journal Computer Vision
Neurocomputing
Journal Artificial Intelligence Research
Statistics and Computing
Computational Statistics and Data Analysis
JASA
Theoretical Computer Science
JSTAT

Supervision of Postdocs

Sep.03-Sept.04	Michal Rosen-Zvi	UCI
Sep.06-Dec.08	Evgeniy Bart	UCI

	Mar.10-Jun.12	Dilan Gorur	UCI
	Mar.13-now	Ted Meeds	UVA

Supervision of PhD Stud.

Sep.04-Jul.06	Anna Nash	UCI
Sep.04-Sep.07	Sridevi Parise	UCI
Sep.04-Aug.10	Ian Porteous	UCI
Sep.04-Jun.05	Kenichi Kurihara	Tokyo U.
Sep.04-Oct.04	Peter Gehler	UCI
Sep.05-Oct.05	Peter Gehler	UCI
Sep.05-Sep.06	Ezekiel Bhasker	UCI
Sep.06-Aug.07	Nathan Sutter	UCI
May 07-Jun.07	Kenichi Kurihara	Tokyo U.
Sep.07 -May 13	Yutian Chen	UCI
Sep.08 - Apr.14	Levi Boyles	UCI
Sept.09 - Aug.10	Xiangxin Zhu	UCI
Sept.09- Apr.14	Andrew Gelfand	UCI
Dec.10-Mar.11	Kevin Heins	UCI
Sep.10-now	Anoop Korattikara	UCI
Sept.10-now	Sungjin Ahn	UCI
Jan.11-Dec.12	Peter Huang	UCI
Mar.13-now	Durk Kingma	UvA
Oct.13-now	Taco Cohen	UvA

Supervision of Bs Stud.

Sep.'02-Jun.'03	Peter-Vincent Gehler	U.Toronto
Sep.06-Sep.07	Joseph Lim	UCI
Jun.09 - Sep.10	Kevin Grant	UCI
Jun.11- Aug. 11	Robert Zhour	UCI
Jan.12- Aug.12	Michael Vorobyev	UCI

Diploma Committee

Feb.14 2005	Peter Gehler	Univ. of Bielefeld, Germany

Advancement Committee

Mar.16 2004	Jianlin Cheng	UC Irvine
May.19 2004	Bozhena Bidyuk	UC Irvine
Jun.11 2004	Radu Marinescu	UC Irvine
Sep.08 2004	Vibhav Gogate	UC Irvine
Oct.21 2005	Seyoung Kim	UC Irvine
Dec.13 2005	Pierre Moreels	EE Caltech
Mar.22 2006	Alex Holub	EE Caltech
Jun.14 2006	Chaitanya Chemudugunta	UC Irvine
Aug.30 2006	Arlo Randall	UC Irvine
Sep.22 2006	Claudio Fanti	EE Caltech
Dec.14 2006	Lucas Scharenbroich	UC Irvine
May 25 2007	Tim DeVries	Earth Sciences UC Irvine
Oct.21 2008	Robert Porter	Physics Dept. UC Irvine
Oct.24 2008	Luis Alberto Rodrguez	Mechanical Engineering UC Irvine
Nov.03 2008	Ian Porteous	UC Irvine (chair)
Nov.14 2008	Ryan Gomes	EE Caltech
Dec.16 2008	Marco Andreetto	EE Caltech

Mar.03 2009	David Orendorff	UC Irvine
May 07 2009	Kate Longo	UC Irvine (Math.)
May 26 2009	Julian Yarkony	UC Irvine (CS)
Jun.08 2009	Meng Yu	UC Irvine (Math.)
Jun.10 2009	Lars Otten	UC Irvine (CS)
Jun.11 2009	Yutian Chen	UC Irvine (chair)
Sep.10 2009	Zhiwei Wu	UC Irvine (Math.)
Sep.14 2009	Shih-Hsien Yang	UC Irvine (CS)
Sep.17 2009	Ying Chen	UC Irvine (Math.)
Mar.04 2011	Qiang Liu	UC Irvine (CS)
Mar.06 2011	Jimmy Foulds	UC Irvine (CS)
Mar.28 2011	Darren Davis	UC Irvine (CS)
Apr.20 2011	Michael Werth	UC Irvine (Physics)
Apr.28 2011	Brokk Toggerson	UC Irvine (Physics)
May 18 2011	Scott Triglia	UC Irvine (CS)
May 07 2011	Robert Coleman	UC Irvine (CogSci)
Jul. 08 2011	Yifei Chen	UC Irvine (CS)
Oct. 04 2011	Yi Yang	UC Irvine (CS)
Oct. 07 2011	Dennis Park	UC Irvine (CS)
Nov.29 2011	Anoop Korrattikara	UC Irvine (chair)
Dec.01 2011	John Snyder	UC Irvine (physics)
Feb.22 2011	Hsiao-fan Liu	UC Irvine (math)
Feb.21 2012	Xiangxin Zhu	UC Irvine (ICS)
Mar.05 2012	Majid Janzamin	UC Irvine (EE)
Apr.16 2012	Andrew Gelfand	UC Irvine (chair)
Jun.05 2012	Shiwei Lan	UC Irvine (Stats)
Jun.08 2012	Levi Boyles	UC Irvine (chair)
Dec.11 2012	Sungjin Ahn	UC Irvine (chair)

Master Committee

Jul.28 2010	Levi Boyles	UC Irvine (chair)
Nov.17 2010	Kiran Shivaram	IC Irvine
Mar.01 2011	Anoop Korattikara	UC Irvine (chair)
Nov.28 2011	Vishnu Balluru	UC Irvine (chair)
Sep.25 2013	Taco Cohen	UvA (chair)
Aug.26 2014	Amogh Gudi	UvA (chair)
Aug.26 2014	Steven Laan	UvA
Aug.27 2014	Karen Ullrich	UvA (chair)
July 29 2015	Christos Louizos	UvA (chair)

PhD Committee

Nov.22 2005	Sergey Kirshner	UC Irvine
Jan.06 2006	Bozhena Bidyuk	UC Irvine
Apr.30 2007	Alex Holub	EE Caltech
Jun.14 2007	Seyoung Kim	UC Irvine
Dec.2 2007	Claudio Fanti	EE Caltech
Mar.3 2008	Edward Meeds,	University of Toronto
Jun.23 2009	Laurens van der Maaten,	Tilburg University, Netherlands
May 29 2009	Vibhav Gogate	UC Irvine
May 29 2009	Chaitanya Chemudugunta	UC Irvine
Jun.29 2009	Peter Carbonetto	U. British Columbia, Canada
Apr.26 2010	Ian Porteous	UC Irvine (chair)
Jan.13 2011	Marco Andreetto	EE Caltech
Jan.18 2011	Ryan Gomes	EE Caltech

Jul.18 2012	Julian Yarkony	UC Irvine
Oct.25 2012	Mohammad Azar	Radbout U. Nijmegen
Mrt. 14 2013	Rick Quax	UvA
Apr. 18 2013	Jafar Tanha	UvA
May10 2013	Yutian Chen	UC Irvine (chair)
May 28 2013	Katja Hofmann	UvA
May 31 2013	Trung Kien	UvA
Apr.10 2014	Andrew Gelfand	UCI
Apr.14 2014	Levi Boyles	UCI (chair)
Sep.3 2014	Alexander Pyayt	UvA
Sep.3 2014	Efstratios Gavves	UvA
Oct.28 2014	Martijn Liem	UvA
Mar.24 2015	Maria-Hendrike Peetz	UvA
Jun.10 2015	Veronika V. Cheplygina	TUD
Aug. 21 2015	Sungjin Ahn	UC Irvine (chair)
Oct. 7 2015	Benigno Uria	University of Edinburgh

Patents

P. Perona, M. Weber, M. Welling
Unsupervised Learning of Object Categories from Cluttered Images
Appl. serial No. 10/066,318; US serial No: 60/266,014
Filing date Feb.01,2002; Status: accepted

Publications

Physics-Journal

J1 M. Welling, *Gravity in 2+1 dimensions as a Riemann-Hilbert problem*, 1996, Class. Quant. Grav. 13, pp. 653.

J2 M. Welling and M.Bijlsma, *Pauli-Lubanski scalar in the polygon approach to 2+1 dimensional gravity*, 1996, Class. Quant. Grav. 13,pp. 1769.

J3 M. Welling, *The torus universe in the polygon approach to 2+1 dimensional gravity*, 1997, Class. Quant. Grav. 14, pp. 929.

J4 M. Welling, *Two particle quantum mechanics in 2+1 gravity using non-commuting coordinates*, 1997, Class. Quant. Grav. 14, pp. 3313.

J5 M. Welling, *Winding solutions for the two particle system in 2+1 gravity*, 1998, Class. Quant. Grav. 15, pp. 613.

J6 M. Welling, *Explicit solutions for point particles and black holes in spaces of constant curvature in 2+1 dimensional gravity*, 1998, Nucl. Phys. B pp. 515.

J7 H.J. Matschull and M.Welling, *Quantum mechanics of a point particle in 2+1 dimensional gravity*, 1998, Class. Quant. Grav. 15, pp. 2981.

Physics-Conference

C1 M. Welling, *Some approaches to 2+1 dimensional gravity coupled to point particles*, 1996, Proceedings of the 7th summer school: Theoretical and Mathematical Physics, Kazan, Russia.

C2 M. Welling, *One particle quantum mechanics in 2+1 gravity using non commuting coordinates*, 1997, Nucl. Phys. B (Proc. Suppl.) 57, pp. 346.

Machine Learning-Journal

J8 M. Welling and M. Weber, *A constrained EM algorithm for independent component analysis*, 2001, Neural Computation 13 (3), pp. 677-689.

J9 M. Welling and M. Weber, *Positive tensor factorization*, 2001, Pattern Recognition Letters 22 (12), pp. 1255-1261.

J10 M. Welling and Y.W. Teh, *Approximate inference in Boltzmann machines*, 2003, Artificial Intelligence 143 (1), pp.19-50.

J11 Y.W. Teh, M. Welling, S. Osindero and G. Hinton, *Energy-based models for sparse overcomplete representations*, 2003, Journal for Machine Learning Research 4 - Special Issue on ICA, pp.1235-1260.

J12 M. Welling and Y.W. Teh, *Linear response algorithms for approximate inference in graphical models*, 2004, Neural Computation 16 (1), pp.197-221.

J13 M. Welling, R.S. Zemel and G.E. Hinton, *Probabilistic Sequential Independent Component Analysis*, 2004, IEEE Transactions on Neural Networks 15(4), pp.838-849.

J14 S. Osindero, M. Welling and G.E. Hinton, *Topographic Product Models Applied to Natural Scene Analysis*, 2005, Neural Computation 18(2), pp.381-414.

J15 G. Hinton, S. Osindero, M. Welling and Y.W. Teh, 2006, *Unsupervised Discovery of Non-Linear Structure Using Contrastive Back-Propagation.* Cognitive Science 30(4), pp.725-731.

J16 A. Holub, M. Welling and P. Perona, *Hybrid Generative-Discriminative Visual Categorization*, 2008, International Journal of Computer Vision 77(1-3), pp.239-258.

J17 K. Kurihara and M. Welling, *Bayesian K-Means as a "Maximization-Expectation" Algorithm*, 2008, Neural Computation 21(4), pp.1-28.

J18 S. Cole, M. Welling, R. Dioso-Villa and R. Carpenter, 2008, *Beyond the Individuality of Fingerprints: A Measure of Simulated Computer Latent Print Source Attribution Accuracy*, Law, Probability & Risk 7, pp.165-189.

J19 D. Newman, A. Asuncion, P. Smyth, M. Welling, 2009, *Distributed Algorithm for Topic Models*, Journal Machine Learning Research 10, 2009, pp.1801-1828.

J20 A. Asuncion, P. Smyth and M. Welling, 2010, *Asynchronous Distributed Estimation of Topic Models for Document Analysis*, Statistical Methodology (published online - *http* : *//dx.doi.org/*10.1016/*j.stamet*.2010.03.002).

J21 A. Kume and M. Welling, 2010, *Maximum-likelihood estimation for the offset normal shape distributions using EM*, Journal of Computational and Graphical Statistics, Vol. 19, No. 3: pp. 702173.

J22 Y. Zhang, L. Bao, S.H. Yang, M. Welling and D. Wu , 2010, *Localization Algorithms for Wireless Sensor Retrieval*, The Computer Journal, Special Issue on Algorithms, Protocols, and Future Applications of Wireless Sensor Networks, publisher: Oxford Journals, 2010 (published online) doi: 10.1093/comjnl/bxq001.

J23 E. Bart, P. Perona, M. Welling, 2009, *Unsupervised organization of image collections: taxonomies and beyond*, IEEE Transactions on Pattern Analysis and Machine Intelligence 33(11), pp. 2302-2315.

J24 C. Sminchisescu and M. Welling, 2011, *Generalized Darting Monte-Carlo*, Pattern Recognition, 44 (10-11): 2738-2748

J25 X. Zhu, M. Welling, F. Jin and J. Lowengrub, 2012, *Predicting Simulation Parameters of Biological Systems using a Gaussian Process Model*, Statistical Analysis and Data Mining 5 (6), pp. 506-522 (Special Issue: Best Papers from the SLDM Competition).

J26 Y. Chen, L. Bornn, N. de Freitas, M. Eskelin, J. Fang, M. Welling, 2015, *Herded Gibbs Sampling*, Journal Machine Learning Research (accepted).

J27 T. Meeds, M. Chiang, M. Lee, O. Cinquin, J. Lowengrub, M. Welling, 2015, *POPE: Post Optimization Posterior Evaluation of Likelihood Free Models*, BMC Bioinformatics 2015, 16:264 doi:10.1186/s12859-015-0658-1.

J28 M. Chiang, A. Cinquin, A.Paz, E. Meeds, M.Welling, O. Cinquin, 2015, *Control of Caenorhabditis elegans germ-line stem-cell cycling speed meets requirements of design to minimize mutation accumulation*, BMC Biology 2015, 13:51 doi:10.1186/s12915-015-0148-y.

J29 T. Meeds, R. Hendriks, S. al Faraby, M. Bruntink, M. Welling, *MLitB: Machine Learning in the Browser*, PeerJ Computer Science 1:e11 https://dx.doi.org/10.7717/peerj-cs.11.

J30 A. Korattikara, Y. Chen, M. Welling, 2015, *Sequential Tests for Large Scale Learning*, Neural Computation 24, p.1-26, 2015.

Machine Learning-Conferences (peer reviewed)

C3 M. Weber, M. Welling and P. Perona, *Unsupervised learning of models for visual object class recognition*, 1999, Proceedings of the 6th Annual Joint Symposium on Neural Computation, JNSC99, Pasadena, pp.153-160.

C4 M. Welling and M. Weber, *Independent component analysis of incomplete data*, 1999, Proceedings of the 6th Annual Joint Symposium on Neural Computation, JNSC99, Pasadena, pp.162-168.

C5 M. Weber, M. Welling and P. Perona, *Towards automatic discovery of object categories*, 2000, Proc. IEEE Comp. Soc. Conf. Comp. Vis. and Pat. Rec., CVPR2000, Hilton Head Island, pp.101-108.

C6 M. Weber, W. Einhauser, M. Welling and P. Perona, *Viewpoint-invariant learning and detection of human heads*, 2000, Proc. 4th Int. Conf. Autom. Face and Gesture Rec., FG2000, Grenoble, pp.20-27.

C7 M. Weber, M. Welling and P.Perona, *Unsupervised learning of models for recognition*, 2000, Proc. 6th Europ. Conf. Comp. Vis., ECCV2000, Dublin, pp.18-32. **Recipient of the 2010 Koenderink Prize**

C8 M. Welling and Y. Whye Teh, *Belief optimization for binary networks: A stable alternative to loopy belief propagation*, 2001, UAI2001, Seattle, Washington, pp.554-561.

C9 Y.W. Teh and M. Welling, *The unified propagation and scaling algorithm*, 2001, Neural Information Processing Systems 14, NIPS2001, Vancouver, pp.953-960.

C10 G.E. Hinton, M. Welling, Y.W. Teh and S.K. Osindero, *A new view of ICA*, 2001, Int. Conf. on Independent Component Analysis and Blind Source Separation, ICA2001, San Diego, pp.746-751.

C11 M. Welling and G. Hinton, *A new learning algorithm for mean field Boltzmann machines*, 2001, Int. Conf. Artificial Neural Networks, ICANN2002, Madrid, pp.351-357.

C12 M. Welling, G. Hinton and S. Osindero, *Learning sparse topographic representations with products of student-t distributions*, 2002, Neural Information Processing Systems 15, NIPS2002, Vancouver, 1383-1390.

C13 M. Welling, R. Zemel and G. Hinton, *Self-supervised boosting*, 2002, Neural Information Processing Systems 15, NIPS2002, Vancouver, pp.681-688.

C14 Y.W. Teh and M.Welling, *On improving the efficiency of the iterative proportional fitting procedure*, 2003, Artificial Intelligence and Statistics, AISTATS2003, Key West, pp.178-186.

C15 M. Welling, R.S. Zemel and G.E. Hinton, *Efficient Parametric Projection Pursuit Density Estimation*, 2003, Conf. on Uncertainty in Artificial Intelligence, UAI2003, Acapulco, pp.575-582.

C16 M. Welling, F. Agakov and C.K.I. Williams, *Extreme Components Analysis*, 2003, Neural Information Processing Systems 16, NIPS2003, Vancouver, pp.137-144.

C17 G.E. Hinton, M. Welling and A. Mnih, *Wormholes improve Contrastive Divergence*, Neural Information Processing Systems 16, NIPS2003, Vancouver, pp.417-424.

C18 M. Welling and Y.W. Teh, *Linear response for approximate inference*, 2003, Neural Information Processing Systems 16, NIPS2003, Vancouver, pp.361-368. rate)

C19 M. Welling, M. Rosen-Zvi and Y.W. Teh, *Approximate inference by Markov chains on union spaces*, 2004, International Conference on Machine Learning, ICML2004, Banff, pp.230-237. acceptance rate)

C20 M. Welling, *On the Choice of Regions for Generalized Belief Propagation*, 2004, Uncertainty in Artificial Intelligence, UAI2004, Banff, pp.585-592. acceptance rate)

C21 M. Welling, M. Rosen-Zvi and G.E. Hinton, *Exponential Family Harmoniums with an Application to Information Retrieval*, 2004, Neural information Processing Systems 17, NIPS2004, Vancouver, pp.1481-1488.

C22 M. Welling and C. Sutton, *Learning Markov Random Fields using Contrastive Free Energies*,2005, Tenth International Workshop on Artificial Intelligence and Statistics, AISTATS2005, Barbados, pp.397-404.

C23 M. Welling, *Robust higher order statistics*, 2005, Tenth International Workshop on Artificial Intelligence and Statistics, AISTATS2005, Barbados, pp.405-412.

C24 M. Welling, *Inferring offset-normal shape distributions using the Expectation Maximization Algorithm*, 2005, Tenth International Workshop on Artificial Intelligence and Statistics, AISTATS2005, Barbados, pp.389-396.

C25 M. Welling, T. Minka and Y.W. Teh, *Structured Region Graphs: Morphing EP into GBP*, 2005, Conf. on Uncertainty in Artificial Intelligence, UAI2005, Edinburgh, pp.607-614.

C26 Alex Holub, M. Welling and P. Perona, 2005, *Combining Generative Models and Fisher Kernels for Object Recognition*, Tenth IEEE Int'l Conf. on Computer Vision, pp.136-143.

C27 P. Gehler and M. Welling, *Products of "Edge-perts"*, 2005, Neural information Processing Systems 18, NIPS2005, Vancouver, pp.419-426.

C28 S. Parise and M. Welling, *Learning in Markov Random Fields, An Empirical Study*, 2005, Joint Statistical Meeting, JSM2005, Minneapolis.

C29 M. Welling and K. Kurihara, *Bayesian K-Means as a "Maximization-Expectation" Algorithm*, 2006, SIAM Conference on Data Mining, SDM2006, Bethesda, Maryland, pp.472-476.

C30 P. Gehler, A. Holub and M. Welling , *The Rate Adapting Poisson Model with Applications to Information Retrieval and Object Recognition*, 2006, International Conference on Machine Learning, ICML2006, Pittsburgh, Pennsylvania, pp.337-344.

C31 M. Welling and S. Parise, *Bayesian Random Fields: The Bethe-Laplace Approximation*, 2006, Conf. on Uncertainty in Artificial Intelligence, UAI2006, pp.512-519.

C32 I. Porteous, A. Ihler, P. Smyth and M. Welling, *Gibbs Sampling for (Coupled) Infinite Mixture Models in the Stick-Breaking Representation*, 2006, Conf. on Uncertainty in Artificial Intelligence, UAI2006, pp.385-392.

C33 Max Welling, *Flexible Priors for Infinite Mixture Models*, 2006, ICML workshop on Nonparametric Bayesian Methods, ICML2006, Pittsburgh, Pennsylvania.

C34 K. Kurihara, M. Welling and N. Vlassis, *Accelerated Variational DP Mixtures Models*, 2006, Neural Information Processing Systems 19, NIPS2006, pp.761-768.

C35 Y.W. Teh, D. Newman and M. Welling, *A Collapsed Variational Bayesian Inference Algorithm for Latent Dirichlet Allocation*, 2006, Neural Information Processing Systems 19, NIPS2006, pp.1353-1360.

C36 S. Parise and M. Welling, *Bayesian Model Scoring in Markov Random Fields*, 2006, Neural Information Processing Systems 19, NIPS2006, pp.1073-1080.

C37 K. Kurihara, M. Welling and Y.W. Teh, *Collapsed Variational Dirichlet Process Mixture Models*, 2007, Twentieth International Joint Conference on Artificial Intelligence, IJCAI2007, pp.2796-2801

C38 Christian Simchisescu and Max Welling, *Generalized Darting Monte Carlo*, 2007, Eleventh International Conference on Artificial Intelligence and Statistics, AISTATS2007, online proceedings, paper 65 at *http://www.stat.umn.edu/~aistat/proceedings/start.htm*.

C39 M. Welling and J. Lim, *A Distributed Message Passing Algorithm for Sensor Localization*, 2007, International Conference on Artificial Neural Networks, ICANN2007, pp.767-775, Part I

C40 D. Newman, A. Asuncion, M. Welling and P. Smyth, *Distributed Inference for Latent Dirichlet Allocation*, 2007, Neural Information Processing Systems 20, NIPS2007, pp.1081-1088

C41 Y.W. Teh, K. Kurihara and M. Welling, *Collapsed Variational Inference for HDP*, 2007, Neural Information Processing Systems 20, NIPS2007, pp.1481-1488

C42 M. Welling, I. Porteous and E. Bart, *Infinite State Bayesian Networks for Structured Domains*, 2007, Neural Information Processing Systems 20, NIPS2007, pp. 1601-1608

C43 C. Chemudgunda, N. Sutter and M. Welling, *Latent Variable Models and Their Pitfalls*, SIAM Int'l Conf. Data Mining, SDM2008, pp.196-207.

C44 R. Gomes, M. Welling and P. Perona, *Incremental Learning of Nonparametric Bayesian Mixture Models*, 2008, Conference on Computer Vision and Pattern Recognition, CVPR2008, pp. 1-8.

C45 E. Bart, I. Porteous, M. Welling and P. Perona, *Unsupervised Learning of Visual Taxonomies*, 2008, Proceedings Conference on Computer Vision and Pattern Recognition, CVPR2008, pp. 1-8.

C46 I. Porteous, E. Bart and M. Welling, *Multi-LDA/HDP: A Non Parametric Bayesian Model for Tensor Factorization*, 2008, Twenty-third Conference on Artificial Intelligence, AAAI2008, pp. 1487-1490

C47 R. Gomes, M. Welling and P.Perona, *Memory Bounded Inference in Topic Models*, 2008, International Conference Machine Learning, ICML2008, pp.344-351

C48 M. Welling, Y.W. Teh and B. Kappen, *Hybrid Variational-MCMC Inference in Bayesian Networks*, 2008, Conf. on Uncertainty in Artificial Intelligence, UAI2008, pp.587-594

C49 I. Porteous, A. Asuncion, D. Newman, A. Ihler, P. Smyth and M. Welling, *Fast Collapsed Gibbs Sampling For Latent Dirichlet Allocation*, 2008, Conference on Knowledge Discovery and Data Mining (KDD2008), pp.569-577

C50 A. Asuncion, P. Smyth, M. Welling, *Asynchronous distributed learning of topic models*, 2008, Neural Information Processing Systems 21 (NIPS2008), pp.81-88

C51 Y. Chen and M. Welling, 2009, *Bayesian Extreme Components Analysis*, 2009, International Joint Conference on Artificial Intelligence (IJCAI2008), pp.1022-1027

C52 M. Welling, 2009, *Herding Dynamic Weights to Learn*, International Conference on Machine Learning (ICML2009), pp.141-148

C53 A. Asuncion, P. Smyth, M. Welling, Y. W. Teh, *On the Role of Smoothing in Topic Models*, 2009, Conf. on Uncertainty in Artificial Intelligence (UAI2009), pp. 27-34.

C54 M. Welling, 2009, *Herding Dynamic Weights for Partially Observed Random Field Models*, Conf. on Uncertainty in Artificial Intelligence (UAI2009), pp. 599-606

C55 Y. Zhang, L. Bao, M. Welling, S.H. Yang, *Base Station Localization in Search of Empty Spectrum Spaces for Cognitive Radio Networks* , 2009, The Fifth International Conference on Mobile Ad-hoc and Sensor Networks (MSN 2009)

C56 Y. Chen and M. Welling, *Parametric Herding*, International Conference on Artificial Intelligence and Statistics (AISTATS2010), pp. 97-104.

C57 I. Porteous, A. Asuncion, M. Welling, *Bayesian Matrix Factorization with Side Information and Dirichlet Process Mixtures*, 2010, Twenty-Fifth Conference on Artificial Intelligence (AAAI-10), p 563-568.

C58 Y. Chen, M. Welling, *Dynamical Products of Experts for Modeling Financial Time Series*, 2010, International Conference Machine Learning (ICML-10), pp.207-214.

C59 Y. Chen, M. Welling, A. Smola, *Super-Samples from Kernel Herding*, 2010, Conf. on Uncertainty in Artificial Intelligence (UAI2010), pp. 109-116.

C60 L. Bao, Y. Zhang, S.H. Yang, M. Welling, G. Xu and Q. Fu, 2010, *Location Estimation for Wireless Sensor Retrieval*, 2010, IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (IEEE WoWMoM 2010).

C61 M. Welling and Y. Chen, *Statistical inference using weak chaos and infinite memory*, 2010, J. Phys.: Conf. Ser. 233 012005, pp. 1-15.

C62 A. Gelfand, L. Van Der Maaten, Y. Chen, M. Welling, *On Herding and the Perceptron Cycling Theorem*, 2010, Neural Information Processing Systems 23 (NIPS2010), pp.694-702.

C63 A. Korattikara, L. Boyles, M. Welling, J. Kim and H. Park, 2011, *Statistical Optimization for Nonnegative Matrix Factorization*, International Conference on Artificial Intelligence and Statistics (AISTATS2011), pp.128-136

C64 L. van der Maaten, M. Welling and L. Saul, 2011, *Hidden-Unit Conditional Random Fields*, International Conference on Artificial Intelligence and Statistics (AISTATS2011), pp.479-488

C65 M. Welling and Y.W. Teh, *Bayesian Learning via Stochastic Gradient Langevin Dynamics*, 2011, International Conference Machine Learning (ICML2011) , pp.681-688

C66 Y. Chen, A. Gelfand, C. Fowlkes, M. Welling, *Integrating Local Classifiers through Nonlinear Dynamics on Label Graphs with an Application to Image Segmentation*, 2011, International Conference Computer Vision (ICCV2011), pp. 2635 - 2642

C67 L. Boyles, A. Korattikara, D. Ramanan, M. Welling, *Statistical Tests for Optimization Efficiency*, 2011, Neural Information Processing Systems (NIPS2011), pp. 2196-2204

C68 D. Görür, L. Boyles and M. Welling, *Scalable Inference on Kingman's Coalescent using Pair Similarity*, 2012, Conference on Artificial Intelligence and Statistics AISTATS 2012, JMLR W&CP 22: pp. 440-448

C69 X. Zhu, F. Jin, J. Lowengrub and M. Welling, *Predicting Simulation Parameters of Biological Systems using a Gaussian Process Model*, Proceedings of the Joint Statistical Meeting 2012 (**Winner of the ASA SDLM Student Paper Competition**).

C70 M. Welling, Ian Porteous and Kenichi Kurihara, *Exchangeable Inconsistent Priors for Bayesian Posterior Inference*, Workshop on Information Theory and Applications (ITA), San Diego, 2012.

C71 S. Ahn, A. Korattikara Balan, M. Welling,*Bayesian Posterior Sampling via Stochastic Gradient Fisher Scoring*, 2012, International Conference Machine Learning (ICML2012), pp. 1591-1598 (**Winner of the ICML Best Paper Award**).

C72 A. Gelfand and M. Welling, *Generalized Belief Propagation on Tree Robust Structured Region Graphs*, 2012, Conference on Uncertainty in Artificial Intelligence (UAI2012) pp. 296-305

C73 Y. Chen and M. Welling, *Bayesian Structure Learning for Markov Random Fields with a Spike and Slab Prior*, 2012, Conference on Uncertainty in Artificial Intelligence (UAI2012) pp. 174-184

C74 M. Welling, A. Gelfand and A. Ihler, *A Cluster-Cumulant Expansion at the Fixed Points of Belief Propagation*, 2012, Conference on Uncertainty in Artificial Intelligence (UAI2012) pp. 883-892

C75 L. Boyles and M. Welling, *The Time-Marginal Coalescent Prior for Hierarchical Clustering*, 2012, Neural Information Processing Systems (NIPS2012), pp. 2978-2986

C76 S. Ahn, Y. Chen and M. Welling, 2013, *Distributed and Adaptive Darting Monte Carlo through Regenerations*, 2013, Conference on Artificial Intelligence and Statistics (AISTATS2013), JMLR W&CP 31, pp. 108-116.

C77 Y. Chen and M. Welling, 2013, *Evidence Estimation for Bayesian Partially Observed MRFs*, 2013, Conference on Artificial Intelligence and Statistics (AISTATS2013), JMLR W&CP 31, pp. 178-186

C78 P. Welinder, M. Welling and P. Perona, 2013, *A Lazy Man's Approach to Benchmarking: Semi-supervised Classifier Evaluation and Recalibration*, 2013, Conference on Computer Vision and Pattern Recognition (CVPR2013) pp. 3262-3269.

C79 L. Bornn, Y. Chen, N. de Freitas, M. Eskelin, J. Fang and M. Welling, 2013, *Herded Gibbs Sampling*, International Conference on Learning Representations (ICLR13), (accepted).

C80 J. Foulds, L. Boyles, C. Dubois, P. Smyth and M. Welling, 2013, *Stochastic Collapsed Variational Bayesian Inference for Latent Dirichlet Allocation*, Conference on Knowledge Discovery and Data Mining (KDD), pp. 446-454.

C81 A. Korattikara, Y. Chen and M. Welling, 2013, *Austerity in MCMC Land: Cutting the Metropolis-Hastings Budget*, Proceedings of the Joint Statistical Meeting (JSM).

C82 A. Korattikara, Y. Chen and M. Welling, 2013, *Austerity in MCMC Land: Cutting the Metropolis-Hastings Budget*, International Conference Machine Learning (ICML2014), pp. 181189.

C83 C. Dubois, A. Korittakara, M. Welling, 2014, *Approximate Slice Sampling for Bayesian Posterior Inference*, Conference on Artificial Intelligence and Statistics (AISTATS2014), accepted.

C84 M. Welling, 2014, *Exploiting the Statistics of Learning and Inference*, Proceedings of the NIPS 2014 Workshop on "Probabilistic Models for Big Data.

C85 S. Ahn, B. Shahbaba, M. Welling, 2014, *Distributed Stochastic Gradient MCMC*, International Conference Machine Learning (ICML2014), pp. 10441052

C86 T. Cohen, M. Welling, 2014, *Learning the Irreducible Representations of Commutative Lie Groups*, International Conference Machine Learning (ICML2014), pp. 17551763

C87 D. Kingma, M. Welling, 2014, *Efficient Gradient-Based Inference through Transformations between Bayes Nets and Neural Nets*, International Conference Machine Learning (ICML2014), pp. 17821790

C88 D. Kingma, M. Welling, 2014, *Auto-Encoding Variational Bayes* International Conference on Learning Representations, (ICLR2014).

C89 T. Meeds, M. Welling, 2014, *GPS-ABC: Gaussian Process Surrogate Approximate Bayesian Computation*, Conference on Uncertainty in Artificial Intelligence (UAI2014), accepted.

C90 D. Kingma, S. Mohamed, D.J. Rezende, M. Welling, 2014, *Semi-supervised Learning with Deep Generative Models*, Neural Information Processing Systems (NIPS2014), pp. 3581-3589.

C91 T. Cohen, M. Welling, 2015, *Harmonic Exponential Families on Manifolds*, International Conference Machine Learning (ICML2015), accepted.

C92 T. Salimans, D. Kingma, M. Welling, 2015, *Markov Chain Monte Carlo and Variational Inference: Bridging the Gap*, International Conference Machine Learning (ICML2015), accepted.

C93 T. Meeds, R. Leenders, M. Welling, 2015, *Hamiltonian ABC*, Conference on Uncertainty in Artificial Intelligence (UAI2015), accepted.

C94 S. Ahn, A. Korattikara, N. Liu, S. Rajan, M. Welling, 2015, *Large-Scale Distributed Bayesian Matrix Factorization using Stochastic Gradient MCMC*, Conference on Knowledge Discovery and Data Mining (KDD2015), accepted.

C95 T. Meeds, M. Welling, 2015, *Optimization Monte Carlo: Efficient and Embarrassingly Parallel Likelihood-Free Inference*, Neural Information Processing Systems (NIPS2015), accepted.

C96 D. Kingma, T. Salimans, M. Welling, 2015, *Variational Dropout and the Local Reparameterization Trick*, Neural Information Processing Systems (NIPS2015), accepted.

C97 A. Korattikara, V. Rathod, K.Murphy, M. Welling, 2015, *Bayesian Dark Knowledge*, Neural Information Processing Systems (NIPS2015), accepted.

C98 W. Li, S. Ahn, M. Welling, 2016, *Scalable Markov Chain Monte Carlo for Bayesian Network Models*, Conference on Artificial Intelligence and Statistics (AISTATS2016), accepted.

C99 C. Louizos, K. Swersky, Y. Li, M. Welling, R. Zemel, 2016, *The Variational Fair Auto-Encoder*, International Conference on Learning Representations (ICLR16).

Book Chapters

BC1 A. Asuncion, S. Triglia, I. Porteous, P. Smyth, M. Welling, *Distributed Algorithms for Topic Models*, 2010, in: *Machine Learning on Very Large Data Sets*, M. Bilenko, J. Langford, R. Bekkerman (Eds.), Cambridge University Press.

BC2 Y, Chen, A. Gelfand, M. Welling, 2014, *Herding for Structured Prediction*, in: *Advanced Structured Prediction*, S. Nowozin, P. V. Gehler, J. Jancsary, C. Lampert (Eds.), The MIT Press Cambridge, Massachusetts London, England.

Books

B1 D. Van Dyk, M. Welling (Eds.), Proceedings of the Twelfth International Conference on Artificial Intelligence and Statistics, JMLR Workshop and Conference Proceedings Volume 5, April 16-18, 2009, Clearwater Beach, Florida USA.

B2 M. Welling, Z. Ghahramani (Eds.), Advances in Neural Information Processing Systems 26, December 5-8, 2013.

Miscellaneous Publications

M1 M. Welling, *Product of Experts*, 2007, Scholarpedia, http://www.scholarpedia.org/article/Product of Experts.

Book Reviews

BR1 M. Welling, *Advanced mean field methods, theory and applications*, eds. M. Opper and D. Saad, 2002, The Computer Journal 45 (2), pp. 257-258.

Contributed Discussions

D1 M. Welling, *Discussion of "Riemann Manifold Langevin and Hamiltonian Monte Carlo Methods" by M. Girolami and B. Calderhead*, Journal of the Royal Statistical Society: Series B (Statistical Methodology) Volume 73, Issue 2, pages 123 - 214, March 2011

D2 M. Welling, *Discussion of "Quantifying the weight of evidence from a forensic fingerprint comparison: a new paradigm" by C. Neumann, I. W. Evett and J. Skerrett*, Journal of the Royal Statistical Society: Series A (Statistics in Society)