Mikkel N. Schmidt

Associate Professor, Statistical Machine Learning

Curriculum Vitae

Personalia

Name	Mikkel N. Schmidt
Address	Store Mølle Vej 17, 1. tv. 2300 København S. Denmark
Birth date	6 July 1978
Nationality	Danish

Education

2012	**Programme for PhD supervisors** LearningLab, Technical University of Denmark
2011	**Education in University Teaching** LearningLab, Technical University of Denmark Module 1: Teaching and Learning. Module 2: Teaching Methods and Course Planning. Module 3: Teaching and Teacher Development. Module 4: Teaching Development Project.
2008	**Ph.D. in Mathematical Modeling** Technical University of Denmark Thesis: "Single-channel source separation using non-negative matrix factorization" Supervisor: Associate Professor Jan Larsen
2003	**M.Sc. in Electronic and Electrical Engineering** Aalborg University Specialization: Speech Communication, Signal Processing Masters thesis grade: 11
2001	**B.Sc. in Engineering** Herning Institute of Business Administration and Technology Grade point average: 11.2

Employment

2013–	**Associate Professor** DTU Informatics, Technical University of Denmark
2012	**Assistant Professor** DTU Informatics, Technical University of Denmark
2011–2012	**Postdoctoral researcher** DTU Informatics, Technical University of Denmark Network for Danish Audio Technology.
2009–2011	**Postdoctoral researcher** DTU Informatics, Technical University of Denmark Grant from Danish Research Council, 2 years
2008–2009	**Postdoctoral researcher** University of Cambridge Grant from Villum Kann Rasmussen, 1 year
2008	**Postdoctoral researcher** DTU Informatics, Technical University of Denmark, 7 months
2007	**Visiting Ph.D. student** LabROSA, Columbia University, New York, 6 months
2005–2008	**Ph.D. student** DTU Informatics, Technical University of Denmark, 3 years

Teaching experience

Courses

2018–	Introduction to intelligent systems (course design, course responsible, lecturer)
2018–	Machine learning, continuing education (course design, course responsible, lecturer)
2015–	Advanced machine learning (group supervisor)
2014–2018	Introduction to programming and data processing (course design, course responsible, lecturer)
2013–	Audio information processing systems (course design, co course responsible)
2012–13	Programming of mathematical software (course design, course responsible, lecturer)
2010–	Introduction to machine learning and data mining (course design, co course responsible, lecturer 2010–11)
2010–11	Machine learning for signal processing (lecturer, group supervisor)
2010–14,16	Advanced topics in
2011	Non-linear signal processing (teaching assistant)
2005–06,10–12	Digital signal processing (lecturer, teaching assistant)
2008,10–11	Advanced digital signal processing (lecturer)
2006–07	Applied digital signal processing (group supervisor)
2006	Introduction to computer systems (teaching assistant)

Thesis supervision

- 6 Bachelor's student.
- 21 Master's students.
- 8 Ph.D. students.

Research interests

Statistical models are used in all areas of science to describe stochastic relations between variables. In statistical modeling, probability theory is used to describe the uncertaincy that is present due to inaccurate measurements, model mismatch, missing data, etc. The process of drawing conclusions based on statistical models is called statistical inference. The aim of my research is to develop novel statistical methodology, which includes:

1. Formulating probabilistic models and devising procedures for computational inference, evaluation, and validation.
2. Applying the developed methodology to solve problems in various application areas in science and industry.

Keywords: Bayesian statistical models. Machine learning for supervised and unsupervised learning. Latent variable models and source separation. Approximate inference in statistical and probabilistic models. Non-parametric Bayesian data analysis.

Grants and stipends

- Co-investigator, Understanding Mindsets across Markets Internationally (UMAMI)
  Innovation Fund Denmark, PI: A Josiassen / FK Glückstad.
  4 year research and innovation project, DKK 4.7M,
  Copenhagen Business School / Technical University of Denmark 2017
- Co-investigator, Modeling of Functional and Structural Brain Connectivity
  The Lundbeck Foundation, PI: M Mørup,
  5 years research project, DKK 10M, Technical University of Denmark
- Principal investigator, Source separation using machine learning
  The Danish Council for Independent Research, Technology and Production Sciences postdoc grant,
  2 years, DKK 1.7 M., Technical University of Denmark, 2009.
- Principal investigator, Matrix factorization with non-parametric Bayesian priors for source separation
  Villum Kann Rasmussen postdoc scholarship,
  1 year, DKK 0.5M., Cambridge University, UK., 2008.

– NVIDIA Academic hardware grant
Algorithms and Numerical Techniques, Big Data, Machine Learning and AI, 2014.
– Financial support for external research
Marie & M. B. Richters Fond, Oticon Fonden, and Otto Mønsteds Fond, 2007
– Ph.D stipend Technical University of Denmark Ph.D. stipend, 3 years, 2005.

Scientific publications and citations

– Refereed journal papers: 15
– Refereed conference papers: 41
– Number of citations (according to Google Scholar): 1702
– H-index (according to Google Scholar): 20

Service in peer review

Grant proposals
– US National Science Foundation, (NSF), Information and Intelligent Systems.
– Netherlands Organisation for Scientific Research, (NWO), Physical Sciences.

Journals
– Audio, Speech, and Language Processing, IEEE Transactions on
– Audio, Speech, and Music Processing, EURASIP Journal on, Hindawi
– Bernoulli Society for Mathematical Statistics and Probability, Journal of the
– Computational Intelligence and Neuroscience, Hindawi
– Chemometrics and Intelligent Laboratory Systems, Elsevier
– Electronic Journal of Statistics
– Image Processing, IEEE Transactions on
– Information Fusion, Elsevier
– Machine Learning (JMLR), Journal of
– Neurocomputing, Elsevier
– Pattern Recognition, Elsevier
– Pattern Analysis and Machine Intelligence, IEEE Transactions on
– Plos One
– Signal Processing, EURASIP, Elsevier
– Signal Processing, EURASIP Journal of advances in, Hindawi
– Signal Processing, IEEE Transactions on
– Signal Processing Letters, IEEE
– Signal Processing Systems, Journal of
– Technometrics, Taylor & Francis

Conferences
– Acoustics, Speech, and Signal Processing (ICASSP), IEEE Intl. Conf. on
– Artificial Intelligence and Statistics (AISTATS)
– Artificial Neural Networks (ICANN), Intl. Conf. on
– Circuits and Systems (ISCAS), IEEE Intl. Symposium on
– Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP), IEEE
– European Signal Processing Conference (EUSIPCO), EURASIP
– Independent Component Analysis and Signal Separation, Intl. Conf. on
– Learning Representation (ICLR), Intl. Conf. on
– Machine Learning (ICML), Intl. Conf. on
– Machine Learning for Signal Ppocessing (MLSP)
– Music Information Retrieval (ISMIR), Intl. Conf. on
– Neural Information Processing Systems (NIPS), Conf. on
– Statistical And Perceptual Audition (SAPA)