PER SIDÉN
Division of Statistics and Machine Learning
Linköping University
SE-58183 Linköping, Sweden

Education

2014–   LINKÖPING UNIVERSITY (LIU)
Ph.D. in Statistics, ongoing since September 2014. Partly on parental leave during 2018 and 2019.

2012   LUND UNIVERSITY
M.Sc. in Engineering Mathematics, October 2012.

Academic and Professional Experience

2013–14   IF SKADEFÖRSÄKRING
Pricing Analyst, December 2013 - August 2014.

2012–13   SVERIGES RIKSBANK
Research Assistant, August 2012 - November 2013.

2008–11   LUND UNIVERSITY
Teaching Assistant in mathematics and statistics courses.

2010   APPTUS
Java developer, summer intern.

Research Interests

Bayesian statistics, Machine learning, Bayesian hierarchical models, Spatial models, Spatio-temporal models, fMRI, Neuroimaging.

Peer-reviewed Publications

2019   O. Andersson, P. Sidén, J. Dahlin, P. Doherty and M.Villani, Real-Time Robotic Search using Structural Spatial Point Processes, Uncertainty in Artificial Intelligence (UAI).

2018   P. Sidén, F. Lindgren, D. Bolin and M. Villani, Efficient Covariance Approximations for Large Sparse Precision Matrices, Journal of Computational and Graphical Statistics, 27(4), 898-909.

2017   P. Sidén, A. Eklund, D. Bolin and M. Villani, Fast Bayesian whole-brain fMRI analysis with spatial 3D priors, NeuroImage, 146, 211-225.

2017   X. Gu, P. Sidén, B. Wegmann, A. Eklund, M. Villani and H. Knutsson, Bayesian diffusion tensor estimation with spatial priors, International Conference on Computer Analysis of Images and Patterns.

Preprints

2019   P. Sidén, F. Lindgren, D. Bolin, A. Eklund and M. Villani, Spatial 3D Matérn priors for fast whole-brain fMRI analysis, arXiv preprint, arXiv:1906.10591.

Teaching Experience as Lecturer and Course Administrator

2019	Bayesian Learning 732A91/TDDE07, lecturer, master course, LiU, evaluation score: 4.44.
2018	Bayesian Learning 732A91/TDDE07, lecturer, master course, LiU, no evaluation score.
2018	Basic Statistics 732G40, bachelor course, LiU, evaluation score: 3.92.
2017	Basic Statistics 732G01, bachelor course, LiU, evaluation score: 4.14.
2016	Probability theory 732A63, master course, LiU, evaluation score: 4.00.
2015	Time series analysis 732A34, master course, LiU, evaluation score: 3.60.
2015	Probability theory 732A40, master course, LiU, evaluation score: 4.00.

Supervision

2019	Using deep-learning to model molecular pathways from histopathology image data, Boxi Zhang, Master thesis, LiU.
2018	Detection of high risk shops in e-commerce, Rebin Hosini, Master thesis, LiU.
2018	Error pattern recognition using machine learning, Zhendong Wang, Master thesis, LiU.
2018	En analys av bränslefraktioners påverkan på ett kraftverks emissioner, Kasper Wilhelmsson and Ludvig Kroon, Bachelor thesis, LiU.
2017	Credit risk evaluation using machine learning, Martina Sandberg, Master thesis, LiU.

Selected Presentations

2019	Poster presentation, Statistics winter conference, Hemavan, Sweden, March.
2018	Poster presentation, International Society for Bayesian Analysis World Meeting, Edinburgh, June.
2018	Invited speaker, Bayes@Lund, Lund, Sweden, April.
2017	Invited speaker, CMStatistics, London, December.
2017	Invited speaker, Statistics seminar, School of Mathematics, University of Edinburgh, October.
2017	Invited speaker, Statistics seminar, Department of Statistics, Stockholm University, January.
2016	Invited speaker, Chalmers Smögen workshop, Smögen, Sweden, August.
2016	Poster presentation, Organization for Human Brain Mapping, Geneva, Switzerland, June.
2016	Poster presentation, International Society for Bayesian Analysis World Meeting, Sardinia, Italy, June.

Software Development

CovApprox, Efficient covariance approximations for large sparse precision matrices. Matlab and C++. https://github.com/psiden/CovApprox.

BFAST3D, extension to the neuroimaging software SPM for Bayesian single-subject fMRI-analysis by MCMC and spatial VB. Matlab. https://github.com/psiden/BFAST3D.

Awards and Grants

2018   ISBA World Meeting Junior Travel Grant.

2017   The Royal Swedish Academy of Sciences, General Announcement for Social Sciences (6000€).

2016   ISBA World Meeting Junior Travel Grant (BayesComp).

2010   Won the 2010 Swedish Championship of Technology (Teknik-SM).