Vinayak A.P. Rao Curriculum Vitae
Gatsby Computational Neuroscience Unit, vrao@gatsby.ucl.ac.uk
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London WC1N 3AR, United Kingdom

Education

June 2012
PhD in Machine Learning, University College London
Dissertation title: Markov chain Monte Carlo for continuous-time discrete-state systems

June 2007
MS in Electrical Engineering, Syracuse University, GPA : 4.0/4.0

August 2003
BE in Electronics and Telecommunication, University of Pune, Result : First Class

Research interests

Bayesian nonparametrics

Dependent nonparametric models, MCMC methods and deterministic approximations for efficient inference in nonparametric models

Continuous-time models

MCMC methods for inference in Markov jump processes and continuous time Bayesian networks, MCMC methods for inference in diffusions

Spatial models

Spatial point processes and spatial mixture models

Publications

MCMC inference for Markov jump processes and extensions. Rao,V.A. and Teh, Y.W. *Submitted*

MCMC for continuous-time discrete-state systems. Rao,V.A. and Teh, Y.W. *Advances in Neural Information Processing Systems 25, 2012*

Repulsive mixtures. Petralia, F., Rao,V.A. and Dunson, D. *Advances in Neural Information Processing Systems 25, 2012*

Gaussian process modulated renewal processes. Rao,V.A. and Teh, Y.W. *Advances in Neural Information Processing Systems 24, 2011*

Fast MCMC inference for Markov jump processes and continuous time Bayesian networks. Rao,V.A. and Teh, Y.W. *The 27th Conference on Uncertainty in Artificial Intelligence, 2011*

Spatial normalized Gamma processes. Rao,V.A. and Teh,Y.W. *Advances in Neural Information Processing Systems 22, 2009*

Retrieved context and the discovery of semantic structure. Rao,V.A. and Howard,M.W. *Advances in Neural Information Processing Systems 20, 2007*

Bridging the gap: Transitive associations between items presented in similar temporal contexts. Howard,M.W., Jing,B, Rao,V.A., Provyn,J.P. and Datey,A.V. *Journal of Experimental Psychology: Learning, Memory, and Cognition, Vol 35(2)*

Talks

Efficient MCMC for continuous time discrete state systems, Machine Learning Group, Dept. of Engineering. Cambridge University, UK, November 2011

Efficient MCMC for continuous time discrete state systems, Dept. of Computer Science. Brown University, USA, October 2011

Spatial normalized random measures, 8th workshop on Bayesian nonparametrics, Veracruz, Mexico, July, 2011

Expectation Propagation for Dirichlet process mixture models, Machine Learning Group, Dept. of Engineering. Cambridge University, UK, August 2010

Contextual retrieval in semantic memory: Building Semantic spaces with TCM, Society for Mathematical Psychology, 40th Annual Meeting, 2007

Awards:

Bogue research fellowship: to work with David Dunson at Duke University (2 months) and Erik Sudderth at Brown University (2 weeks)

Outstanding student in Electrical Engineering, Syracuse University, 2007

Teaching:

Teaching Assistant for "Adaptive Modelling of Complex Data", University College London, 2009

Teaching Assistant for "Unsupervised Learning", Gatsby Unit,UCL, 2008

Teaching Assistant, Department of Physics, Syracuse University, Spring 2007

Work experience

Syracuse University,NY August 2005 - May 2007
Research Assistant

Paxonet Comm. Inc., India (now Conexant Systems) August 2003 -July 2005
Design Engineer

Reviewing:

IEEE Trans. Pattern Analysis and Machine Intelligence, Neural Information Processing Systems, International Conference on Machine Learning, International Joint Conferences on Artificial Intelligence, AIStats

Programming languages

C/C++, Matlab, Perl