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EDUCATION	University of British Columbia, Vancouver PhD, Dept. of Computer Science	Sep 2006 - present Average : 88.6%
	<ul style="list-style-type: none">• Area : Statistical Machine Learning.• Thesis topic : Variational bounds for discrete-data latent Gaussian models.• Supervisors : Dr. Kevin Murphy• Committee members : Dr. Arnaud Doucet and Dr. Nando D. Freitas	
	Indian Institute of Science, Bangalore, India M.Sc. (Engg.), Dept. of Electrical Comm. Engg	Jan 2002 - June 2004 CGPA : 6.33 / 8.0
	<ul style="list-style-type: none">• Area : Statistical Signal Processing.• Thesis topic : Learning probabilistic models for brain-computer interfaces.• Supervisor : Dr. D. N. Dutt	
	G.S. Inst. of Tech. & Science, Indore, India B.E. Electronics & Instrumentation Engineering	1997 - 2001 Aggregate : 79.04%

RELEVANT COURSES (At UBC) Machine Learning, Statistical Computation-MCMC, Nonlinear Optimization, Multi-Agent Systems, Image Analysis, Algorithm Design and Analysis, Computer Communication Protocol, (At IISc) Random Processes, Linear algebra, Estimation Detection and Identification, Advanced Digital Signal Processing, Digital Signal Compression, Biomedical Signal Processing.

RESEARCH INTERESTS My main area of interest is machine learning and statistics. I am interested in hierarchical Bayesian models such as Bayesian regression, latent Gaussian models, topic models, and graphical models. My goal is to develop accurate, efficient, and scalable algorithms to carry out various tasks such as inference, learning, and model selection on large-scale datasets. I use approximation techniques based on variational methods, numerical optimization, Markov chain Monte Carlo, and greedy search algorithms. I am interested in applying these methods to social science, text analysis, computational biology, computer vision and control systems.

INDUSTRIAL RESEARCH EXPERIENCE	Xerox Research Center Europe Research Intern	Aug. 2009-Dec. 2009 Under Dr. Guillaume Bouchard
	<ul style="list-style-type: none">• I worked in Machine Learning and Optimization research group. I studied and derived various variational bounds for the log-sum-exp (LSE) function, and I compared their performances on text data using topic models.	
	Honeywell Tech. Sol. Lab, Bangalore, India Senior Engineer	Aug. 2004 - Aug. 2006 Under Dr. Jagadeesh B.
	<ul style="list-style-type: none">• I was a member of Control and Communication research group. I designed state estimation algorithms for mobile sensor networks. I proposed a framework to derive optimal state-estimators for a wireless network with random communication delays and packet losses. I also derived bounds on expected performance of a decentralized target tracking algorithm.	

SELECTED REFEREED PUBLICATIONS

- **M. E. Khan**, S. Mohamed, B. Marlin, and K. Murphy, *A stick breaking likelihood for categorical data analysis with latent Gaussian models*, AISTATS, 2012.
- B. Marlin, **M. E. Khan**, and K. Murphy, *Piecewise Bounds for Estimating Bernoulli-Logistic Latent Gaussian Models*, ICML, 2011 (acceptance rate of 25.8%).

- **M. E. Khan**, B. Marlin, G. Bouchard, and K. Murphy, *Variational Bounds for Mixed-Data Factor Analysis*, NIPS 2010 (acceptance rate of 24%).
- B. Mogaddham, B. Marlin, **M. E. Khan** and K. Murphy, *Accelerating Bayesian Structural Inference for Non-decomposable Gaussian Graphical Model*, NIPS 2009 (oral presentation, acceptance rate of 24%, only 2% accepted for oral presentation).
- **M. E. Khan** and D. N. Dutt, *An Expectation-Maximization Algorithm Based Kalman Smoother Approach for Event-Related Desynchronization (ERD) Estimation from EEG*, Vol. 54, No. 7, July 2007, IEEE Transactions on Biomedical Engineering.
- **M. E. Khan**, H. Raghavan, J. Brahmajosyula, S. Ramalingam and S. Narasimhan, *State Estimation with Wireless Devices*, Third International Conference on Intelligent Sensing and Information Processing (ICISIP), 14-17 December 2005, Bangalore, India.
- **M. E. Khan** and D. N. Dutt, *Expectation-Maximization (EM) Algorithm for Instantaneous Frequency Estimation with Kalman Smoother*, 12th European Signal Processing Conference EUSIPCO 2004, Vienna, Austria.
- **M. E. Khan** and D. N. Dutt, *Estimation of ERS/ERD with Kalman Smoother: An EM Algorithm Approach*, 17th int. EURASIP conference BIOSIGNAL 2004 (Poster).

**PROFESSIONAL
ACTIVITIES
AND ACHIEVE-
MENTS**

- Invited talk at Microsoft Research, Redmond, 29 Sep. 2012.
- Paper presentation at International Conference of Machine Learning, 2011.
- Recipient of University Graduate Fellowship (\$16,000/year), 2008-2012 .
- Reviewer for Machine Learning, Transaction on Pattern Analysis and Machine Intelligence (TPAMI), Medical and Biological Engineering and Computing (MBEC), European Signal Processing Conference (EUSIPCO) 2004.
- Accepted to attend Machine Learning Summer School in France (Sep. 1-15, 2008),
- Accepted to attend Neural Computation and Adaptive Perception (NCAP) summer school, Toronto (Aug. 7-11, 2007).
- Participated in Time-series workshop, Toronto (June 13-15, 2007) organized by CIFAR.
- Recipient of graduate teaching assistant award, summer 2008.
- Recipient of student service award, 2007.
- Invited lectures on video compression M/s. Cranes Varsity Pvt. Ltd, Bangalore (2004).
- All India rank 49 in Graduate Aptitue Test in Engineering (GATE), 2001.

**OTHER
ACTIVITIES**

- Programming languages : MATLAB, R, C/C++.
- Teaching assistant (at UBC) for Machine Learning (CPSC 540), Computer vision (CPSC 425), Models of Computation (CPSC 121), Introduction to Computation (APSC160).
- Vice-President (Social) for Computer Science Graduate Students Association, UBC (2007).
- Initiated Friday evening lecture series in Computer Science, UBC (2007). This lead to a significant improvement in the social gathering in the department.
- Organized refresher courses for computer science students (Sep. 13-24, 2007), and gave tutorials on Probability Theory and Linear Algebra.

REFERENCES

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