“Fitting Gaussian Process Models Using the Sparse Precision Matrix Algorithm to Big Data”

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Abstract: An overview of our work on Gaussian Process modeling for big data sets using convex optimization is presented. Fitting Gaussian Process models suffers from nonconvexity of the likelihood function and also from computation complexity for big n problems. In this talk, we present an algorithm with provable results on convergence of the parameters estimates to their true value. The talk includes some applications of GP models for prediction and classification problems in manufacturing, healthcare, and meteorology.

Bio: Sam Davanloo-Tajbakhsh is a Ph.D. candidate at the Pennsylvania State University. He is working on his degree in Industrial Engineering and Operations Research. He holds a Master of Science in Statistics from The Pennsylvania State University (2013), a Master of Science in Industrial Engineering from Iran University of Science & Technology (2006) and a Bachelor of Science in Textile Engineering from Tehran Polytechnic University (2003). He has taught Deterministic Models in OR at The Pennsylvania State University and worked as a Manufacturing Execution System Engineer in Iran for one and a half years (2007-2009).