

*** CS 7180: Special Topics in AI: High-Dimensional Data Analysis via Parsimonious Modeling and Probabilistic Graphical Models ***

*** List of Papers to Read on Probabilistic Graphical Models ***

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1) Conditional Random Fields (CRFs):

Main Papers:

H. Wallach, Conditional Random Fields: An Introduction

F. Sha and F. Pereira, Shallow Parsing with Conditional Random Fields

Additional Papers:

J. Lafferty et al., Conditional Random Fields: Probabilistic Models for Segmenting and Labeling Sequence Data

S. Kumar and M. Hebert, Discriminative Random Fields

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2) Kernel PGMs:

Main Papers:

L. Song, J. Huang, A. Smola, and K. Fukumizu, Hilbert Space Embeddings of Conditional Distributions with Applications to Dynamical Systems

Additional Papers:

L. Song, A. Gretton, and C. Guestrin, Nonparametric Tree Graphical Models via Kernel Embeddings

L. Song, A. Gretton, D. Bickson, Y. Low, and C. Guestrin, Kernel Belief Propagation

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3) Spectral Algorithms for PGMs:

Main Papers:

D. Hsu, S. Kakade, and T. Zhang A Spectral Algorithm for Learning Hidden Markov Models

Additional Papers:

L. Song et al., Nonparametric Latent Tree Graphical Models: Inference, Estimation, and Structure Learning

A. Parikh, L. Song, and E. Xing, A Spectral Algorithm for Latent Tree Graphical Models

L. Song et al., Hilbert Space Embeddings of Hidden Markov Models

L. Song et al., Kernel Embeddings of Latent Tree Graphical Models

S. Cohen et al., Spectral Learning of Latent-Variable PCFGs

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4) Max Margin MRFs

Main Papers:

B. Taskar, C. Guestrin, and D. Koller, Max-Margin Markov Networks
J. Zhu and E. Xing, Maximum Entropy Discrimination Markov Networks

Additional Papers:

J. Zhu and E. Xing, On Primal and Dual Sparsity of Markov Networks
J. Zhu, E. Xing, and B. Zhang, Partially Observed Maximum Entropy
Discrimination Markov Networks

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5) Dual Decomposition

Main Papers:

D. Sontag, A. Globerson, T. Jaakkola, Introduction to Dual
Decomposition for Inference

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6) Covariance Estimation

Main Papers:

J. Friedman et al., Sparse Inverse Covariance Estimation with the
Graphical Lasso

Additional Papers:

A. Dempster, Covariance Selection
N. Meinshausen and P. Buhlmann, High-Dimensional Graphs and Variable
Selection with the Lasso

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7) Covariance Estimation

Main Papers:

Y. Boykov et al., Fast approximate energy minimization via graph cuts
A. Delong et al., Fast Approximate Energy Minimization with Label
Costs

