

Cholesky Based Estimation In Graphical Models

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We consider the problem of sparse covariance estimation in high dimensional settings using graphical models. These models can be represented in terms of a graph, where the nodes represent random variables and edges represent their interactions. When the random variables are jointly Gaussian distributed, the lack of edges in such graphs can be interpreted as conditional and/or marginal independencies between these variables. We present a computationally efficient approach for high dimensional sparse covariance estimation in graphical models based on the Cholesky decomposition of the covariance matrix or its inverse. The proposed method is illustrated on both simulated and real data.