An extended least angle regression for contingency tables

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Abstract

In Hirose and Komaki (2010), we extended the least angle regression algorithm (Efron, Hastie, Johnstone, and Tibshirani, 2004). The extended least angle regression is used for estimating parameters and selecting models in the generalized linear regression problem while the original least angle regression is used in the linear regression problem. In this presentation, we treat contingency tables. We consider the dually flat space of distributions corresponding to contingency tables. The extension is based on the information geometry of dually flat spaces. Information geometry is an generalization of Euclidean geometry. We illustrate the extended least angle regression algorithm for contingency tables and show results for some examples.

Keywords

Contingency table, Dually flat space, Information geometry.

References

Efron, B., Hastie, T., Johnstone, I., and Tibshirani, R. (2004). Least angle regression (with discussion). *Ann. Statist. 32*, 407–499.

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