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A Convex Formulation for Multiple Ordinal Output Classification

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**Highlights**

- first study multiple ordinal output classification (MOOC) as a general machine learning task.
- propose an effective formulation to jointly model the relationship among multiple ordinal variables of MOOC and their discrete ordinal values.
- exemplify a convex objective function by the formulation which allows us to learn the optimal model parameters and the relationships among output variables simultaneously.
- apply the kernel trick to provide a nonlinear extension to enhance nonlinear ability of our model.
- demonstrate that our method not only achieves effective classification performance but also reveals the structures among output variables.

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