

Ordinal factorization machine with hierarchical sparsity

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Problems & Ideas

- Problems of interpretability in ordinal regression problems
 - Existing OR methods rarely consider latent structures of given data
 - Particularly the interaction among covariates
- Ideas: Explore the hierarchical interactions between variables
 - Use FM is to enhance model's generalization ability when dealing with sparse data.
 - Hierarchical sparsity will provide a more interpretability model.

Main Contributions

- Recover the hierarchical structure between variables.

- Achieve good results on real world datasets

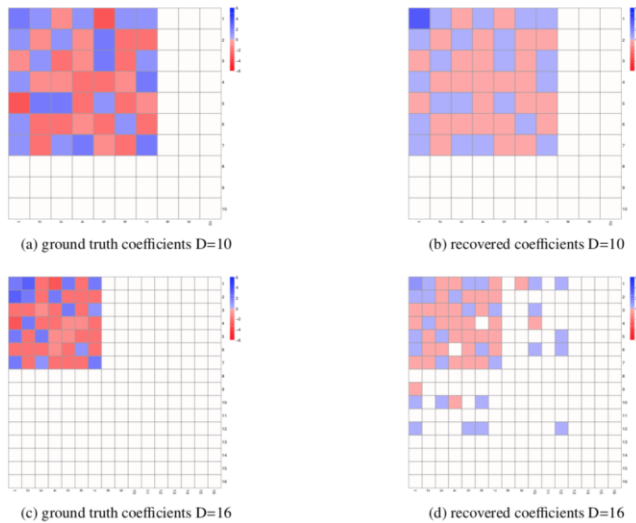


Fig. 2: The ground-truth coefficient matrix and the coefficients recovered by OFMHS

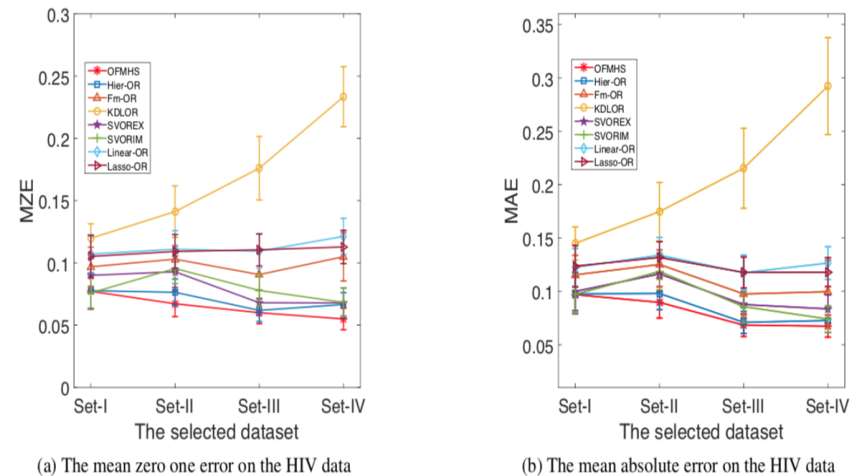


Fig. 4: Test results of the selected algorithms on the HIV datasets(lower is better)