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orf: Ordered Random Forests

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Econometrics: Ordered Forest

> ML estimation of ordered choice models
> As flexible as machine learning methods
> As interpretable as classical econ methods

R-package: Functions

> Conditional probabilities: $P[Y_i = m \mid X_i = x]$
> Marginal effects: $\partial P[Y_i = m \mid X_i = x]/\partial x$
> Inference: weight-based procedure

```
# estimate ordered forest with user specified settings
orf_model <- orf(X, Y, num.trees=1000, mtry=2, min.node.size=5, replace=FALSE, sample.fraction=0.5,
                 honesty=TRUE, honesty.fraction=0.5, inference=TRUE, importance=FALSE )

# predict the probabilities with the estimated orf model for new data
orf_pred <- predict(orf_model, newdata=X_test, type="probs", inference=FALSE )

# evaluate marginal effects with the estimated orf model for new data
orf_margins <- margins(orf_model, newdata=X_test, eval="mean", window=0.1, inference=TRUE )
```

Download the Paper

> arXiv: Ordered Forest Estimator

Download the Package

> CRAN: Ordered Random Forests