# Building an explainable model for ordinal classification. Meeting black box model performance levels.

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# Plan

1. Research purpose
2. Ordinal classification
3. Dataset
4. Methodology
5. Results
6. Model explanation

# Research purpose

# Ordinal classification

# Dataset - Eucalyptus

- OpenML
- 556 observations of 87 variables
- ordinal target: Low, Average, Good, Best
- target meaning: suitability for soil conditions

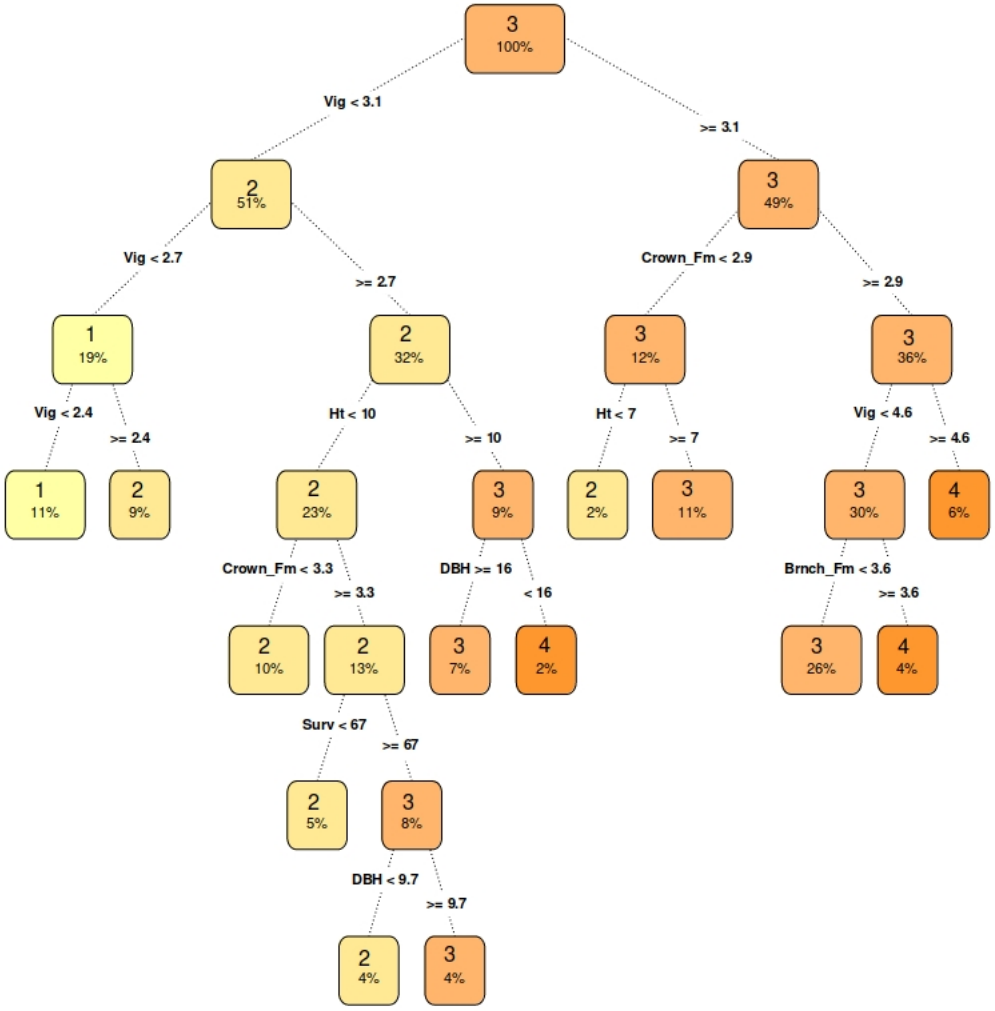
# Methodology

# Results

| Model | AUC | MSE | ACC | ACC1 | % Best AUC |
|---|---|---|---|---|---|
| Basic rpart | 0.8259 | 0.5284 | 0.5835 | 0.9797 | 95.89% |
| Regr rpart var-sel. | 0.8613 | 0.4996 | 0.5815 | 0.9323 | 100.00% |
| Xgboost | 0.8590 | 0.4467 | 0.6248 | 0.9873 | 99.73% |
| Xgboost small | 0.8405 | 0.4998 | 0.6044 | 0.9830 | 97.59% |

# Results

# Model Explanation



# Conclusions

Our model:

- smaller computational cost compared to black box
- comparable/better results after presented methods applied
- ability to explain decisions