

Model-based boosting in R

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Overview

- Part 1: Introduction to Gradient Boosting
- Part 2: The package **mboost**
- Part 3: Families
 - Families in **mboost**
 - Build your own *family*
- Part 4: Case Studies
 - Birth weight prediction for small fetuses
 - Forest regeneration under deer browsing pressure

Break: *Dinner*

Overview

- Evening-Labs:
 - Lab 1: Modeling Air Pollution in São Paulo (BH & NR)
 - Use `gamboost()` in various ways
 - Use crossvalidation to determine optimal model
 - Specify special base-learners
 - Learn how to plot and predict models
 - Lab 2: Modeling Breast Cancer Gene Expression Data (MS & AM)
 - Use `glmboost()` to model high-dimensional data
 - Use boosting to build prediction rules for survival outcomes
 - Compare boosting to penalized regression