

This diploma thesis focuses on the application of classification and regression trees, as well as bootstrap aggregating, to individual reserving in insurance. In the first part, we provide a summary of the theory and establish mathematical formalities that are sometimes overlooked in basic texts on these topics. We provide a comprehensive overview of the concepts, including a detailed discussion of their practical applications. In the second part, we build on existing research by extending the use of machine learning in individual claims reserving. Specifically, we expand on a prior article that only modeled the number of claims using classification trees. We also incorporate regression trees and bagging to model the size of each claim, resulting in more accurate reserve estimates. We achieve this by applying these techniques to insurance data and obtaining empirical distributions that allow us to calculate confidence intervals and quantiles. Ultimately, we determine the reserves needed for both the next year and the ultimate reserves.