

John Hopkins University – Data Science Specialization – Regression Models Course – Project 1

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The Effect of Transmission Type on Fuel Economy in 1973-74 Car Models

Problem

Context

You work for *Motor Trend*, a magazine about the automobile industry. Looking at a data set of a collection of cars, they are interested in exploring the relationship between a set of variables and miles per gallon (MPG) (outcome). They are particularly interested in the following two questions:

- Is an automatic or manual transmission better for MPG?
- Quantify the MPG difference between automatic and manual transmissions.

Question

Take the `mtcars` data set and write up an analysis to answer their question using regression models and exploratory data analyses.

Your report must be:

- Written as a PDF printout of a compiled (using knitr) R markdown document.
- Brief. Roughly the equivalent of 2 pages or less for the main text. Supporting figures in an appendix can be included up to 5 total pages including the 2 for the main report. The appendix can only include figures.
- Include a first paragraph executive summary.

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