

July 7, 2022

Editor
The R Journal

Dear Professor Cook,

We submit for your journal the paper “eat: An R Package for fitting Efficiency Analysis Trees”. We believe our contribution meets the aims, scope, and high-quality standards of R Journal, while its content will interest a wide audience of scholars and companies. The reason for that interest is that, over the last forty years, many parametric and non-parametric approaches have been introduced to estimate production frontiers given a data sample in microeconomics and (manufacturing) engineering. However, few of these methodologies are based on machine learning techniques, despite being a growing field of research. Accordingly, in this package (**eat**), we provide for the first time the tools to apply certain machine learning techniques, as adaptations of standard regression trees and Random Forest [esteve2020], to determine production frontiers and technical efficiency. In addition, from the perspective of model visualisation, the package includes graphical representations of the production frontier using tree structures and the derivation of importance rankings of the input variables in the analysis.

We have a blog at the disposal of any user for the purpose of showing updates and news concerning the package. It is available in <https://efficiencytools.wordpress.com/>.

With the confidence that the submission can be sent out for referring, please do not hesitate to contact us in case you have any questions or doubts.

Regards,

Miriam Esteve
Center of Operations Research
Miguel Hernandez University
Elche, Spain
miriam.estevec@umh.es