Package 'ImFoR'

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Type Package

Title Non-Linear Height Diameter Models for Forestry

Version 0.1.0

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Description Tree height is an important dendrometric variable and forms the basis of vertical structure of a forest stand. This package will help to fit and validate various non-linear height diameter models for assessing the underlying relationship that exists between tree height and diameter at breast height in case of conifer trees. This package has been implemented on Naslund, Curtis, Michailoff, Meyer, Power, Michaelis-Menten and Wykoff non linear models using algorithm of Huang et al. (1992) <doi:10.1139/x92-172> and Zeide et al. (1993) <doi:10.1093/forestscience/39.3.594>.

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Encoding UTF-8

Imports stats, minpack.lm, Metrics, caret, tidyverse, nlme, ggpubr, ggplot2

RoxygenNote 7.2.1

Depends R (>= 2.10)

NeedsCompilation no

Repository CRAN

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`ImFoR` *Non-Linear Height Diameter Models for Forestry*

Description

Non-Linear Height Diameter Models for Forestry

Usage

```
ImFoR(data, train_frac = 0.8)
```

Arguments

`data`	Datasets
`train_frac`	Train-Test fraction

Value

- metrics: Metrics of all applied models
- plot: Plot

References

- Jeelani, M.I., Tabassum, A., Rather, K and Gul,M.2023. Neural Network Modeling of Height Diameter Relationships for Himalayan Pine through Back Propagation Approach. Journal of The Indian Society of Agricultural Statistics. 76(3): 169–178
- Tabassum, A., Jeelani, M.I., Sharma,M., Rather, K R ., Rashid, I and Gul,M.2022. Predictive Modelling of Height and Diameter Relationships of Himalayan Chir Pine . Agricultural Science Digest - A Research Journal. DOI:10.18805/ag.D-5555
- Huang, S., Titus, S.J., and Wiens, D.P. 1992. Comparison of nonlinear height-diameter functiond for major Alberta tree species. Can J. For. Res. 22: 1297-1304. DOI : 10.1139/x92-172
- - Zeide, B. 1993. Analysis of growth equations. Forest Science 39(3):594-616. doi:10.1093/forestscience/39.3.594

Examples

```
library("ImFoR")
data <- system.file("extdata", "data_test.csv", package = "ImFoR")
data_test <- read.csv(data)
Model<-ImFoR(data =data_test)
```

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