Package 'ImFoR'

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Type Package

Title Non-Linear Height Diameter Models for Forestry

Version 0.1.0

Author M. Iqbal Jeelani [aut, cre],
Fehim Jeelani [aut],
Shakeel Ahmad Mir [aut],
Syed Naseem Geelani [aut],
Mushtaq Ahmad Lone [aut],
Asif Ali [aut],
Afshan Tabassum [aut],
Khalid Ul Islam [aut],
Imran Rashid [aut],
Md Yeasin [aut]

Maintainer M. Iqbal Jeelani <jeelani.miqbal@gmail.com>

Description Tree height is an important dendrometric variable and forms the basis of vertical struc-
ture of a forest stand. This package will help to fit and validate various non-linear height diame-
ter models for assessing the underlying relationship that exists between tree height and diame-
ter at breast height in case of conifer trees. This package has been implemented on Naslund, Cur-
tis, Michailoff, Meyer, Power, Michaelis-Menten and Wykoff non linear models using algo-
rithm 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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R topics documented:

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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