

# Package ‘ImFoR’

January 20, 2025

**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>.

**License** GPL-3

**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

**Date/Publication** 2023-09-21 18:50:02 UTC

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 ImFoR

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*Non-Linear Height Diameter Models for Forestry*


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### 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/forestsience/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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