

Appendix A1

The R script code for usage of the best predictive DLA model with 8 layers and 100 neurons and obtaining the predictions of individual tree heights by other forest practitioners.

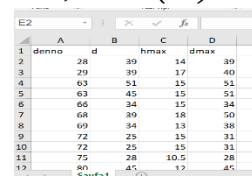
#activating H2O package on your local machine using all available cores for deep learning Algorithms:

```
>library(h2o)
```

establishing the IP and PORT parameters in H2O package on your local machine:

```
>h2o.init()
```

loading your data to H2o from your local machine, your data must be entered to excel in this order: denno (sample no.) in the first column, d (dbh) in the second column, hmax (h0) in third column and dmax (d0) in the fourth column in excel worksheet:



denno	d	hmax	dmax	
1	28	39	14	39
2	29	39	17	40
4	63	31	15	31
5	63	45	15	51
6	66	34	15	34
7	68	39	18	50
8	69	34	13	38
9	72	25	15	31
10	72	25	15	31
11	75	28	10.5	28
12	80	45	12	45

```
>yourdata <- as.h2o(dataonyourlocalmachine)
```

loading the best predictive DLA model with 9 layers and 100 neurons trained in this study from your local machine, which this DLA model may be obtained from the supplementary file of this study:

```
>DLAmodel<-h2o.loadModel("C:/Users/GROWTH/Desktop/DLA model with 9 Layers and 100 Neurons")
```

predicting your individual tree height by using your input variables including diameter at breast height (cm), the dominant height (m) (h0), and dominant diameter (cm) (d0) from the best predictive DLA model in this study.

```
>predicts<-as.data.frame(h2o.predict(DLAmodel, yourdata))
```

loading xlsx package to obtain ITH predictions

```
>library(xlsx)
```

#saving your ITH predictions to your local machine as Excel worksheet

```
>write.xlsx (predicts, file = "predictions.xlsx")
```