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1  |--MAX-MIN NORMALIZATION FOR MULTIPLE SPECTRA--
2
3  # Load necessary libraries
4  library(readxl)
5  library(writexl)
6  library(tidyr)
7  library(reshape2)
8  library(dplyr)
9
10 # Read data from excel file into a data frame
11 input_data <- read_excel("C:\\Users\\barbi\\Desktop\\input_data.xlsx")
12
13 # Changes the data from a data frame to a matrix
14 input_matrix <- as.matrix(input_data)
15
16 # Check for missing and infinite values
17 sum(is.na(input_matrix))
18 sum(is.infinite(input_matrix))
19
20 # Perform Maximum-Minimum normalization from 0 to 1
21 corrected_spectrum <- apply(as.matrix(input_matrix), 2, function(x) (x - min(x))/(max(x) - min(x)))
22
23 # Changes the format from a long table to a wide table
24 corrected_df <- data.frame(wave_number = seq_len(nrow(input_data)), as.data.frame(corrected_spectrum))
25 corrected_df <- corrected_df[,-1] #eliminates first column
26
27 # Eliminate the first column in corrected_df
28 corrected_df <- corrected_df %>% select(-1)
29
30 # Add the first column in input_data as the new first column in corrected_df
31 corrected_df <- cbind(input_data[,1], corrected_df)
32
33 # Change the name of the first column to "wave_number"
34 names(corrected_df)[1] <- "wave_number"
35
36 # Converting "corrected_df" to a data frame again
37 corrected_df <- data.frame(corrected_df)
38
39 # Exports the data frame in a new .xlsx file
40 write_xlsx(corrected_df, "C:\\Users\\barbi\\Desktop\\max_min_ns_corrected.xlsx")
41

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