

BUSINESS ANALYTICS: EXERCISE SHEET No.4 (WiSe2018-19)

**15TH OF NOVEMBER (DUE 21ST OF NOVEMBER AT
23:59:59)**

Dr. Josif Grabocka, Rafael Rego Drumond
HiWi: Kiran Madhusudhanan
Information Systems and Machine Learning Lab
University of Hildesheim

BONUS POINTS!

Submission grades represent 100% of this bonus.
For each 11% of your total grade you will earn 0.5
bonus points on the final exam up to a maximum
of 4 points.

For both questions you are allowed to use
code. Please show your code and explain what
are you doing. If you use excel, please show
your functions and explain your steps.

QUESTION 8 - TSC EUCLIDEAN DISTANCE - 5 POINTS

(Type B) Consider the time series below and its
classifications. Use Euclidean distances for a
1-NN classification of Time series T_3 .

$$T_1 = (1, 2, 3, 2, 1, 2, 2), \text{Class}(T_1) = 0$$

$$T_2 = (4, 3, 2, 1, 0, 1, 0), \text{Class}(T_2) = 1$$

$$T_3 = (2, 3, 2, 1, 2, 2, 1), \text{Class}(T_3) = ?$$

QUESTION 9 - TSC TIME WARPING 15 POINTS

(Type B) a) Solve the question 8 using Dynamic
Time Warping.

b) Which one of the solutions is most reliable
considering that $\text{Class}(T_3) = 0$?

WARNING!

If we detect **Plagiarism** on your solution, you will
receive no points for it. If a second plagiarism
attempt is detected, you might fail the class or be
expelled from your program.

You are allowed to discuss solutions, but if you
work on a group, you must indicate on your sheet
with whom are you working with.

Group submissions earn 0 points.

HOW TO SUBMIT?

Inside the Samelzonplatz Campus, there is a
post-box cluster to the right corridor from the
entrance. Look for the "Business Analytics
Post-Box" (we will set it up on Monday). For
security you must also submit on our learnweb
page: <https://www.uni-hildesheim.de/learnweb2018/course/search.php?search=3108> (password: 3108). If you submit
your physical version you will get it back with
correction markings. Submitting on learnweb will
guarantee that you will receive your grade (in case
you forget to post it or it goes missing).

Keep in mind that your solution sheets are
important documents, so make sure they are clean
and organized. Non-readable sheets will not be
graded.

WRITE YOUR NAME, ID, AND TUTORIAL
GROUP.

REMEMBER TO KEEP A COPY OF YOUR
SOLUTION FOR YOURSELF!