[entry]none/global//global/global BloodPressuremisc moreauthor morelabelname author1hash=KMfamily=Kachuee, familyi=K, given=Mohamad, giveni=M, namehashKM+1 fullhashKM+1 labelnamesourceauthor labeltitlesourcetitle howpublishedmagenta`https://archive.ics.uci.edu/ml/datasets/Cuff-Less+Blood+Pressure+Estimation` noteAccessed: 19.02.2021 titleUCI - Cuff-Less Blood Pressure Estimation Data Set

BloodPressureDatabasemisc labeltitlesourcetitle howpublishedmagenta`https://archive.physionet.org/mimic2/` noteAccessed: 20.02.2021 titlePhysioNet - Multiparameter Intelligent Monitoring in Intensive Care (MIMIC) II

Goldberger2000PhysioBankPAarticle author10hash=GAfamily=Goldberger, familyi=G, given=A., giveni=A, hash=ALAfamily=Amaral, familyi=A, given=L.A., giveni=LA, hash=GLfamily=G, familyi=G, given=L., giveni=L, hash=HJMfamily=Hausdorff, familyi=H, given=JeffreyM., giveni=JM, hash=IPfamily=Ivanov, familyi=I, given=P., giveni=P, hash=MRfamily=Mark, familyi=M, given=R., giveni=R, hash=MJfamily=Mietus, familyi=M, given=J., giveni=J, hash=MGfamily=Moody, familyi=M, given=G., giveni=G, hash=PCfamily=Peng, familyi=P, given=C., giveni=C, hash=SHfamily=Stanley, familyi=S, given=H., giveni=H, namehashGA+1 fullhashGAALAGLHJMIPMRMJMGPCSH1 labelnamesourceauthor labeltitlesourcetitle pagesE21520 titlePhysioBank, PhysioToolkit, and PhysioNet: components of a new research resource for complex physiologic signals. volume101 23 journaltitleCirculation year2000

Kachuee2015CufflessHCarticle author4hash=KMfamily=Kachuee, familyi=K, given=Mohamad, giveni=M, hash=KMMfamily=Kiani, familyi=K, given=MohammadMahdi, giveni=MM, hash=MHfamily=Mohammadzade, familyi=M, given=Hoda, giveni=H, hash=SMfamily=Shabany, familyi=S, given=M., giveni=M, namehashKM+1 fullhashKMKMMMHSM1 labelnamesourceauthor labeltitlesourcetitle pages10061009 titleCuff-less high-accuracy calibration-free blood pressure estimation using pulse transit time journaltitle2015 IEEE International Symposium on Circuits and Systems (ISCAS) year2015

Machine Learning - SS 2021
Exercise 0
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Contents

We decided on the data sets "tbd" and "Cuff-Less Blood Pressure Estimation Data Set" [?]. They differ in size of the data set, number of features, type of features, etc. to give us a variety of possible scenarios to work with. *TO ADD HERE AFTER WE HAVE A SECOND DATA SET: "COMPARE CLEANNESS THE DATA SETS", "COMPARE NEEDED PREPROCESSING OF THE DATA SETS".*

Blood Pressure

Data origin The original data comes from the Multi-parameter Intelligent Monitoring in Intensive Care II (MIMIC II) online waveform database [?][?]. The data set used here was extracted from MIMIC II and reduced onto Photoplethysmograph (PPG), Electrocardiogram (ECG) and arterial blood pressure (ABP) waveform signals [?]. The data was collected between the years 2001 and 2008 from a variety of Intensive Care Units and were sampled at rate of 125 Hz with 8 bit accuracy. Preprocessing on the original with respect to smoothing the waveform and removing blocks with a) unreasonable blood pressures, b) unreasonable heart rate, c) severe discontinuities and d) big difference in the PPG signal correlation between neighbouring blocks.

Dataset The data set contains 12,000 rows with each 3 attributes. Due to the preprocessing, there should be no missing values or outliers. The features are all of rational type.

PPG signal	Ratio
ECG signal	Ratio
ABP signal	Ratio

Table 1: Features & Data type of the Life Expectancy data set

Task This data set is our choice for the classification part with ABP being the target variable. The classification is done by mapping the ABPs systolic and diastolic values to the classes "hypertension" or "no hypertension" - possible thresholds could be 140 mmHg for the systolic and 90 mmHg for the diastolic value. The classification is then done on the feature set (PPG, ECG). *MAYBE WE CAN ADD A BIT MORE REASONING ONCE WE HAVE A 2D SURFACE PLOT THAT SHOWS THAT REGRESSION IS DUMB.*

Plots

TBD

Data origin

tbd	tbd

Table 2: Features & Data type of the Life Expectancy data set

Dataset

Task