Biomedical Signal Analysis and Modeling

【Homework#4】

Due date: May 25, 2021

1. Generate two uniform, independent signals s_1, s_2 with different variances and mix these with some matrix **A**: **x**=**As**.   Calculate the PCA matrix **W** of **x** both analytically and numerically.

2. Use ICA to find the independent signals from **x**.   Then, compare the separated components with the principal components, visually using scatter plots and numerically by analyzing the mixing-separation-matrix products.   You can use the FastICA package available at http://www.cis.hut.fi/projects/ica/fastica/code/FastICA_2.1.zip