

Machine Learning Seminar 2.

R scripting, manifold and layout learning.

February 20, 2020

1 R scripting

1. First script: `hello.r`, how to save and run it with `source()`
2. Plots, save as PDF: open device, plot, close device
3. Second script: `iris.r` which plots PCA results

2 Projection, deconvolution and intermediate methods of dimension reduction

1. PCA restrictions: it is based on projection, and uses measurement data with linear assumptions.
2. Deconvolutions: `isomap` (`Rdimtools::do.isomap()`)
3. Intermediate methods: UMAP (`uwot::umap()`)

3 Homework

1. Debugging: how to make the `scriptb.r` (http://ashipunov.info/shipunov/school/biol_240/scriptb.r) work

4 Future

Distances, MDS, clustering, LDA, MANOVA, recursive partitioning, bagging and boosting, rules methods, SVM, neural networks, semi-supervised methods. Geometric morphometry in R.