

# Supervised and unsupervised neighbour-embeddings

Trabalhos de conclusão de curso (TCC 2017/2018)

1 or 2 positions

## Description

We are looking for one or two undergraduate students with an interest in the analysis and visualisation of spatio-temporal data. We aim at designing a parametric dimensionality reduction method that preserves probability distributions according to a class of information-theoretic divergences. The mathematical focus of the work is on statistical machine learning methods for dimensionality reduction and latent-variable modelling. Applications to modelling multiple and possibly short time-series from life sciences will set the playground.

A successful candidate is expected to have a fair understanding of some areas of statistical machine learning (those mentioned above, preferably), a good grasp of numerical optimisation techniques (knowledge of gradient-based methods is needed), and excellent programming skills (your call, though Python, R, or Matlab will be preferred). Web-scraping is welcome.

Students of computer science, computer engineering, statistics, physics and math are all invited to apply. The call remains open until the position is filled.

If you are interested, get in contact: [FRANCESCO.CORONA@UFC.BR](mailto:FRANCESCO.CORONA@UFC.BR)