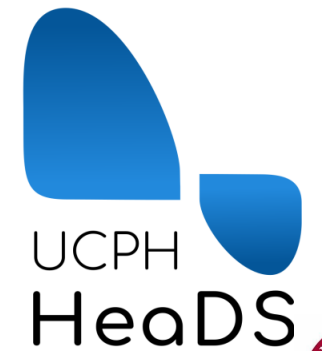# Python Tsunami

– June 7th-9th –

What else?

The future of the Tsunami:

- Divided into 2: intro and advanced

Machine Learning in Python
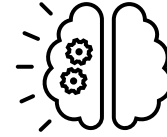
- Future course at HeaDS

Community:

NNF Computational Biology Network

Python Tsunami
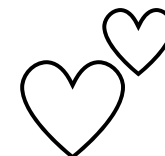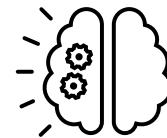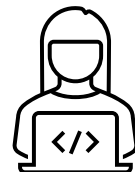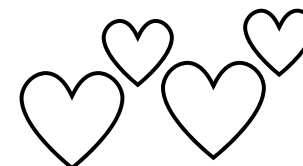
Future of the Tsunami

Currently

Python Tsunami

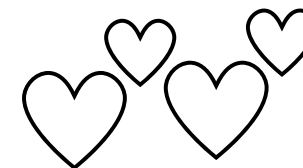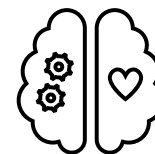# Future of
the Tsunami

scikit learn
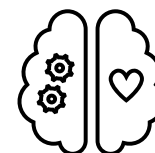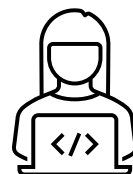
Course: Machine Learning in Python

RAPIDS

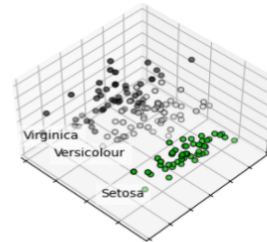fast.ai

PyTorch

TensorFlow

Dimensionality reduction

Reducing the number of random variables to consider.

Applications: Visualization, Increased efficiency
Algorithms: k-Means, feature selection, non-negative matrix factorization, and more...
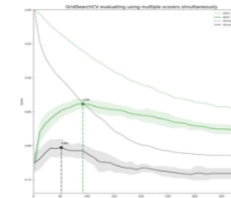

Examples

Model selection

Comparing, validating and choosing parameters and models.

Applications: Improved accuracy via parameter tuning
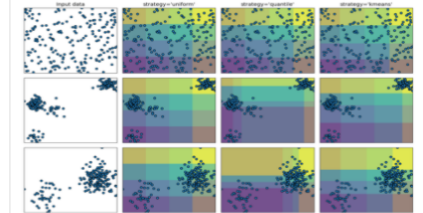**Algorithms:** grid search, cross validation, metrics, and more...

Examples

Preprocessing

Feature extraction and normalization.

Applications: Transforming input data such as text for use with machine learning algorithms.
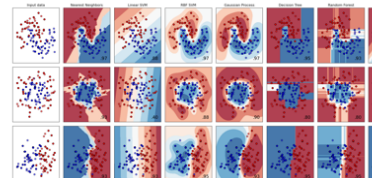**Algorithms:** preprocessing, feature extraction, and more...

Examples

Classification

Identifying which category an object belongs to.

Applications: Spam detection, image recognition.
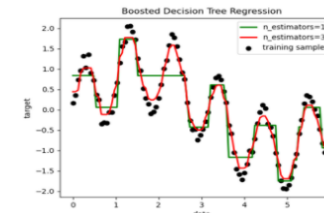**Algorithms:** SVM, nearest neighbors, random forest, and more...

Examples

Regression

Predicting a continuous-valued attribute associated with an object.

Applications: Drug response, Stock prices.
Algorithms: SVR, nearest neighbors, random forest, and more...
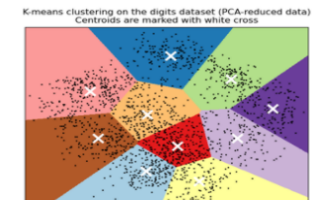

Examples

Clustering

Automatic grouping of similar objects into sets.

Applications: Customer segmentation, Grouping experiment outcomes
Algorithms: k-Means, spectral clustering, mean-shift, and more...

Examples

CO Open in Colab

Community

- **Slack NNF Computational Biology Network:**

https://join.slack.com/t/nnfcbn/shared_invite/zt-piuxr1es-e08yRLg4iGNZTIBfjoPEjg
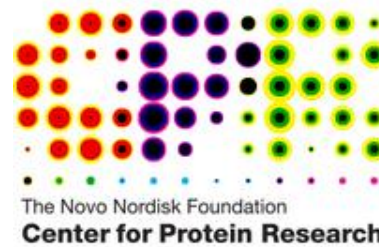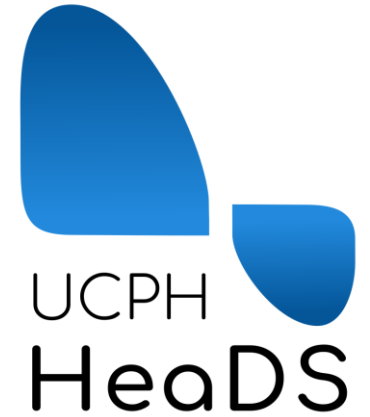
- **HeaDS: Center for Health Data Science**

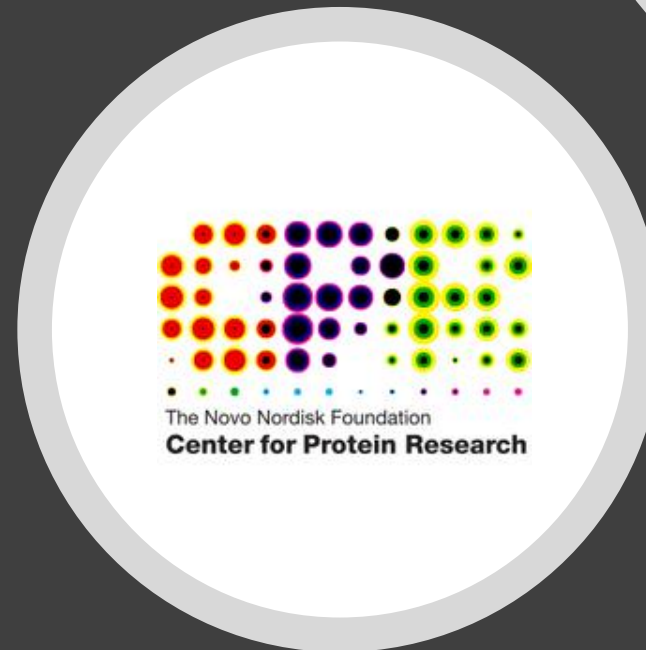Building 33.4 in Panum – pass by, write, anything...

The Team

1. Alberto Santos (HeaDS)
2. Jose Alejandro Romero Herrera (HeaDS)
3. Davide Placido (NNF CPR)
4. Henry Webel (NNF CPR)
5. Philip Charles (BDI (Oxford, UK))
6. Rita Colaço (PRI)
7. Roc Reguant (NNF CPR)
8. Thilde Terkelsen (HeaDS)

Other Members of the Team

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3. Grzegorz Jerzy Maciag (BRIC)
4. Katerina Nastou (NNF CPR)
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6. Marilena Hohmann (HeaDS)
7. Marta Matos (GENOME Center)
8. Nicholas Luke Cowie (DTU)

Thank You!