

Here is a playground for input for the NN in HEP project.

This document is dedicated for the initial discussion of the new open source software project for the multi component tool to prepare neural network analysis on the modern level of functionality.

The main idea is to prepare a software framework, where people can easily add new components (modules, plugins) with new learning algorithms, network architectures, etc. The software design should allow all the elements properly are interfaced with each other on order to create a chain of the desired methods for analysis. In this way, it will be possible to combine different algorithms in the analysis chain. For example, in the pre-processing of input data one can use unsupervised learning methods, like Self Organizing Map (SOM), and then pass the SOM output to the feed-forward neural network (NN), use Genetic Algorithms (GA) to optimize the parameters of NN, add a boosting algorithm in order to improve the efficiency and plot necessary monitoring/final distributions with the modern level of graphics (e.g. in ROOT package). In the same way user should have a possibility to change the intermediate components (e.g. use Bayes NN (BNN) instead of NN) and implement new training methods, etc.

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Thoughts, ideas, links proposals are here.

As soon as we come to an agreement (on requirements, structure, language, etc.) or an initial document we will create a more official page and move there.

Other Projects

References

Tomas's Input and comments (23/04/2009)

Proposed programming technologies

Package Design

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This topic: Main > NNHEP

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