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MVA Framework Offline Guide

Guide to the multivariate analysis (MVA) framework, a modular CMSSW-integrated framework for easy access to MVA algorithms.

Contacts

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Introduction

The MVAComputer is a framework to allow generic discriminator computations employing multi-variate analysis techniques. The goal is an easy-to-use API and seamless CMSSW integration. The latter part is realised by storing the training data (i.e. the description of the MVA computer layout, likelihood PDF distributions, neural network configuration, ...) needed for the computation of a specific discriminator inside the CMSSW conditions database. The framework also provides an accompanying MVA trainer which can be used to create those calibrations, either from directly using the API or by using provided framework ESProducerLooper templates to facilitate running the training on EDM data files directly.

Tutorials

A page with an introduction and simple examples using the FWLite interface can be found here: [SWGideMVAFrameworkTutorial](#)

Documentation

The [SWGideMVAComputer](#) and [SWGideMVATrainer](#) Wiki pages describe using the evaluator and trainer directly from within CMSSW, with interfaces to the EventSetup/CondDB and related plugin templates, etc....

Alternatively, here is the current MVA framework technical documentation working draft: [saout_001_temp.pdf](#), which is the most exhaustive technical documentation at the moment.

References

Presentations:

- General overview [↗](#)
- Framework overview, small algorithm introduction and CMSSW integration [↗](#)
- Very early presentation [↗](#)

To do

- a tool to create standard XML training files for the common use cases
- visualization tools
- some nice examples
- an interface to StatPatternRecognition (SPR) (currently an issue, because no interface other than files is possible to load trained classifiers, which is incompatible with CMSSW policy)

Area in free format for items that the groups wish to add: meetings, to do lists, links etc

ChristopheSaout - 06 Dec 2007	created initial wiki page
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Responsible: ChristopheSaout

This topic: CMSPublic > SWGuideMVAFramework

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