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Subject: make for PndTools/MVA

Posted by [donghee](#) on Tue, 08 Jan 2013 11:21:12 GMT

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Happy new year to all PANDA family!

I'm trying to do MVA under PndTools and now have a trouble to build source for that.

trunk pandaroot was successfully installed with fairsoft sep12 version and bug free for example macros.

and then I am going to make for PndTools/MVA/, which is MVA repository in PANDArOOT.

few source files are built without any errors.

but at the main function in build/classifyStdKnn.o the procedure is stopped by linking problem(?).

I tried it with two different library path like below, but doesn't help.

export

```
LD_LIBRARY_PATH=${ROOTSYS}/lib${LD_LIBRARY_PATH:+:${LD_LIBRARY_PATH}}
```

```
export LD_LIBRARY_PATH=${ROOTSYS}/tools/root/lib:${LD_LIBRARY_PATH}
```

Could you correct me the way to do make for MVA?

Thank you.

Quote:

```
kang@dkang-laptop:~/GSI/pandaroot_oct12/PndTools/MVA$ make
```

```
make: Entering directory `/home/kang/GSI/pandaroot_oct12/PndTools/MVA'
```

```
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
```

```
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
```

```
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
```

```
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
```

```
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
```

```
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -c PndMvaUtil.cpp -o ./build/PndMvaUtil.o
```

```
Done building: PndMvaUtil
```

```
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
```

```
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
```

```
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
```

```
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
```

```
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
```

```
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -c PndMvaTools.cpp -o ./build/PndMvaTools.o
```

```
Done building: PndMvaTools
```

```
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
```

```
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
```

```
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
```

```
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
```

```
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
```

```
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -c PndMvaVarPCATransform.cpp -o
```

```
./build/PndMvaVarPCATransform.o
```

```
Done building: PndMvaVarPCATransform
```

```
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
```

```

-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -c PndMvaDataSet.cpp -o
./build/PndMvaDataSet.o
Done building: PndMvaDataSet
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -c PndMvaClassifier.cpp -o
./build/PndMvaClassifier.o
Done building: PndMvaClassifier
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -c PndMvaTrainer.cpp -o
./build/PndMvaTrainer.o
Done building: PndMvaTrainer
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -c CreateRandomDataSet.cpp -o
./build/CreateRandomDataSet.o
Done building: CreateRandomDataSet
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -c examplePCATransform.cpp -o
./build/examplePCATransform.o
Done building: examplePCATransform
make -C KNN;
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -I./ -c PndStdKnnClassify.cpp -o
./build/PndStdKnnClassify.o
Done building: PndStdKnnClassify
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native

```

```

-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -I./ -c classifyStdKnn.cpp -o
../build/classifyStdKnn.o
Done building: classifyStdKnn
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -I./ -c PndPrzWindowClassify.cpp -o
../build/PndPrzWindowClassify.o
Done building: PndPrzWindowClassify
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -I./ -c classifyPrzWin.cpp -o
../build/classifyPrzWin.o
Done building: classifyPrzWin
make -C LVQ;
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -I./ -I./Clusters/ -c PndLVQClassify.cpp -o
../build/PndLVQClassify.o
Done building: PndLVQClassify
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -I./ -I./Clusters/ -c PndLVQTrain.cpp -o
../build/PndLVQTrain.o
Done building: PndLVQTrain
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -I./ -I./Clusters/ -c LVQtrain.cpp -o
../build/LVQtrain.o
Done building: LVQtrain
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -I./ -I./Clusters/ -c LVQclassify.cpp -o
../build/LVQclassify.o

```

```

Done building: LVQclassify
make -C TMVAkd_KNN;
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I. -I../ -c PndKnnTrain.cpp -o
../build/PndKnnTrain.o
Done building: PndKnnTrain
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I. -I../ -c PndKnnClassify.cpp -o
../build/PndKnnClassify.o
Done building: PndKnnClassify
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I. -I../ -c PndProjectedKNN.cpp -o
../build/PndProjectedKNN.o
Done building: PndProjectedKNN
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I. -I../ -c KnnClassify.cpp -o
../build/KnnClassify.o
Done building: KnnClassify
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I. -I../ -c KnnClassifyModified.cpp -o
../build/KnnClassifyModified.o
Done building: KnnClassifyModified
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I. -I../ -c KnnTrain.cpp -o ../build/KnnTrain.o
Done building: KnnTrain
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops

```

```

-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -I../ -c Prclassify.cpp -o ../build/Prclassify.o
Done building: Prclassify
make -C Clusters;
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -I../ -c PndMvaCluster.cpp -o
../build/PndMvaCluster.o
Done building: PndMvaCluster
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -I../ -c exampleCluster.cpp -o
../build/exampleCluster.o
Done building: exampleCluster
make -C TMVA_MCL;
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -I../ -c PndMultiClassMlpTrain.cpp -o
../build/PndMultiClassMlpTrain.o
Done building: PndMultiClassMlpTrain
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -I../ -c PndMultiClassMlpClassify.cpp -o
../build/PndMultiClassMlpClassify.o
Done building: PndMultiClassMlpClassify
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -I../ -c PndMultiClassBdtTrain.cpp -o
../build/PndMultiClassBdtTrain.o
Done building: PndMultiClassBdtTrain
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I./ -I../ -c PndMultiClassBdtClassify.cpp -o

```

```

../build/PndMultiClassBdtClassify.o
Done building: PndMultiClassBdtClassify
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I. -I. -c mlpTrain.cpp -o ../build/mlpTrain.o
Done building: mlpTrain
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I. -I. -c mlpClassify.cpp -o ../build/mlpClassify.o
Done building: mlpClassify
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I. -I. -c bdtTrain.cpp -o ../build/bdtTrain.o
Done building: bdtTrain
g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -pthread -m64
-I/home/kang/GSI/fairsoft_sep12/include/root -I. -I. -c bdtClassify.cpp -o ../build/bdtClassify.o
Done building: bdtClassify

```

=++++++ Linking example applications. ++++++=

```

g++ -W -Wall -Wextra -Wshadow -Wredundant-decls -Wnormalized=nfc
-Wdisabled-optimization -Woverlength-strings -Winvalid-pch -Wfloat-equal -Werror
-fdiagnostics-show-option -fdiagnostics-show-location=every-line -O3 -fopenmp -funroll-loops
-fsplit-ivs-in-unroller -fvariable-expansion-in-unroller -march=native -mtune=native
-mfpmath=sse -msse3 -mstackrealign -L/home/kang/GSI/fairsoft_sep12/lib/root -lCore -lCint
-lRIO -lNet -lHist -lGraf -lGraf3d -lGpad -lTree -lRint -lPostscript -lMatrix -lPhysics -lMathCore
-lThread -pthread -lm -ldl -rdynamic -lTMVA -lTreePlayer -lMinuit -lMLP -lXMLIO -fopenmp
build/classifyStdKnn.o build/PndStdKnnClassify.o build/PndMvaClassifier.o \
build/PndMvaUtil.o build/PndMvaDataSet.o build/PndMvaVarPCATransform.o
build/PndMvaTools.o \
-o build/classifyStdKnn
build/classifyStdKnn.o: In function `main':
classifyStdKnn.cpp:(.text.startup+0x37e): undefined reference to `TStopwatch::TStopwatch()'
classifyStdKnn.cpp:(.text.startup+0x39d): undefined reference to `TStopwatch::Start(bool)'
classifyStdKnn.cpp:(.text.startup+0x96e): undefined reference to `TStopwatch::Stop()'
classifyStdKnn.cpp:(.text.startup+0x97b): undefined reference to `TStopwatch::Stop()'
classifyStdKnn.cpp:(.text.startup+0x988): undefined reference to `TStopwatch::RealTime()'
classifyStdKnn.cpp:(.text.startup+0x99a): undefined reference to `TStopwatch::CpuTime()'
classifyStdKnn.cpp:(.text.startup+0x13f3): undefined reference to `vtable for TStopwatch'

```

classifyStdKnn.cpp:(.text.startup+0x13f8): undefined reference to `TObject::~~TObject()'  
classifyStdKnn.cpp:(.text.startup+0x18f9): undefined reference to `vtable for TStopwatch'  
classifyStdKnn.cpp:(.text.startup+0x18fe): undefined reference to `TObject::~~TObject()'  
build/classifyStdKnn.o: In function `\_GLOBAL\_\_sub\_I\_main':  
classifyStdKnn.cpp:(.text.startup+0x1ea1): undefined reference to  
`TVersionCheck::TVersionCheck(int)'  
build/PndStdKnnClassify.o: In function  
`\_GLOBAL\_\_sub\_I\_ZN17PndStdKnnClassifyC2ERKSsRKSt6vectorISsSaISsEES6\_':  
PndStdKnnClassify.cpp:(.text.startup+0x31): undefined reference to  
`TVersionCheck::TVersionCheck(int)'  
build/PndMvaClassifier.o: In function  
`\_GLOBAL\_\_sub\_I\_ZN16PndMvaClassifierC2ERKSsRKSt6vectorISsSaISsEES6\_':  
PndMvaClassifier.cpp:(.text.startup+0x31): undefined reference to  
`TVersionCheck::TVersionCheck(int)'  
build/PndMvaDataSet.o: In function `PndMvaDataSet::ValidateWeightFile()':  
PndMvaDataSet.cpp:(.text+0x46d): undefined reference to `TFile::TFile(char const\*, char  
const\*, char const\*, int)'  
PndMvaDataSet.cpp:(.text+0x47f): undefined reference to `TDirectoryFile::Get(char const\*)'  
PndMvaDataSet.cpp:(.text+0x49d): undefined reference to `TDirectoryFile::Get(char const\*)'  
PndMvaDataSet.cpp:(.text+0x4bb): undefined reference to `TDirectoryFile::Get(char const\*)'  
PndMvaDataSet.cpp:(.text+0x4cf): undefined reference to `TObjArray::GetAbsLast() const'  
PndMvaDataSet.cpp:(.text+0x4de): undefined reference to `TObjArray::GetAbsLast() const'  
PndMvaDataSet.cpp:(.text+0x4f0): undefined reference to `TObjArray::GetAbsLast() const'  
PndMvaDataSet.cpp:(.text+0x544): undefined reference to `TString::TString(TString const&)'  
PndMvaDataSet.cpp:(.text+0x577): undefined reference to `TString::~~TString()'  
PndMvaDataSet.cpp:(.text+0x61b): undefined reference to `TString::TString(TString const&)'  
PndMvaDataSet.cpp:(.text+0x671): undefined reference to `TString::~~TString()'  
PndMvaDataSet.cpp:(.text+0x6c9): undefined reference to `TString::~~TString()'  
PndMvaDataSet.cpp:(.text+0x6f8): undefined reference to `TString::TString(TString const&)'  
PndMvaDataSet.cpp:(.text+0x74e): undefined reference to `TString::~~TString()'  
PndMvaDataSet.cpp:(.text+0x772): undefined reference to `TString::TString(TString const&)'  
PndMvaDataSet.cpp:(.text+0x895): undefined reference to `TString::TString(TString const&)'  
PndMvaDataSet.cpp:(.text+0x8b6): undefined reference to `TDirectoryFile::Get(char const\*)'  
PndMvaDataSet.cpp:(.text+0x8c6): undefined reference to `TString::~~TString()'  
PndMvaDataSet.cpp:(.text+0x920): undefined reference to `TString::TString(TString const&)'  
PndMvaDataSet.cpp:(.text+0x941): undefined reference to `TDirectoryFile::Get(char const\*)'  
PndMvaDataSet.cpp:(.text+0x951): undefined reference to `TString::~~TString()'  
PndMvaDataSet.cpp:(.text+0x982): undefined reference to `TString::TString(TString const&)'  
PndMvaDataSet.cpp:(.text+0x9a3): undefined reference to `TDirectoryFile::Get(char const\*)'  
PndMvaDataSet.cpp:(.text+0x9b3): undefined reference to `TString::~~TString()'  
PndMvaDataSet.cpp:(.text+0x9d9): undefined reference to `TFile::Close(char const\*)'  
PndMvaDataSet.cpp:(.text+0x9e6): undefined reference to `TFile::~~TFile()'  
PndMvaDataSet.cpp:(.text+0xa41): undefined reference to `TString::TString(TString const&)'  
PndMvaDataSet.cpp:(.text+0xa76): undefined reference to `TString::~~TString()'  
PndMvaDataSet.cpp:(.text+0xb83): undefined reference to `TFile::~~TFile()'  
PndMvaDataSet.cpp:(.text+0xe41): undefined reference to `TString::~~TString()'  
PndMvaDataSet.cpp:(.text+0xe6d): undefined reference to `TString::~~TString()'  
PndMvaDataSet.cpp:(.text+0xe87): undefined reference to `TString::~~TString()'  
PndMvaDataSet.cpp:(.text+0xe9c): undefined reference to `TString::~~TString()'  
build/PndMvaDataSet.o: In function `PndMvaDataSet::WriteDataSet(std::string const&):'  
PndMvaDataSet.cpp:(.text+0x1812): undefined reference to `TFile::TFile(char const\*, char  
const\*, char const\*, int)'

PndMvaDataSet.cpp:(.text+0x1c78): undefined reference to `TTree::TTree(char const\*, char const\*, int)'

PndMvaDataSet.cpp:(.text+0x1cf5): undefined reference to `TTree::Branch(char const\*, void\*, char const\*, int)'

PndMvaDataSet.cpp:(.text+0x2033): undefined reference to `TTree::Fill()'

PndMvaDataSet.cpp:(.text+0x205f): undefined reference to `TTree::Write(char const\*, int, int)'

PndMvaDataSet.cpp:(.text+0x206c): undefined reference to `TTree::~TTree()'

PndMvaDataSet.cpp:(.text+0x24ef): undefined reference to `TTree::TTree(char const\*, char const\*, int)'

PndMvaDataSet.cpp:(.text+0x256b): undefined reference to `TTree::Branch(char const\*, void\*, char const\*, int)'

PndMvaDataSet.cpp:(.text+0x2736): undefined reference to `TTree::Fill()'

PndMvaDataSet.cpp:(.text+0x2749): undefined reference to `TTree::Write(char const\*, int, int)'

PndMvaDataSet.cpp:(.text+0x27e1): undefined reference to `TTree::TTree(char const\*, char const\*, int)'

PndMvaDataSet.cpp:(.text+0x2863): undefined reference to `TTree::Branch(char const\*, void\*, char const\*, int)'

PndMvaDataSet.cpp:(.text+0x2a2e): undefined reference to `TTree::Fill()'

PndMvaDataSet.cpp:(.text+0x2a41): undefined reference to `TTree::Write(char const\*, int, int)'

PndMvaDataSet.cpp:(.text+0x2a53): undefined reference to `TFile::Close(char const\*)'

PndMvaDataSet.cpp:(.text+0x2a60): undefined reference to `TTree::~TTree()'

PndMvaDataSet.cpp:(.text+0x2a6d): undefined reference to `TTree::~TTree()'

PndMvaDataSet.cpp:(.text+0x2ab5): undefined reference to `TFile::~TFile()'

PndMvaDataSet.cpp:(.text+0x2b09): undefined reference to `TTree::~TTree()'

PndMvaDataSet.cpp:(.text+0x2b37): undefined reference to `TFile::~TFile()'

PndMvaDataSet.cpp:(.text+0x2c1f): undefined reference to `TTree::~TTree()'

PndMvaDataSet.cpp:(.text+0x2c2c): undefined reference to `TTree::~TTree()'

build/PndMvaDataSet.o: In function `PndMvaDataSet::Trim()':

PndMvaDataSet.cpp:(.text+0x521f): undefined reference to `TRandom3::TRandom3(unsigned int)'

PndMvaDataSet.cpp:(.text+0x54e5): undefined reference to `TRandom::Uniform(double, double)'

PndMvaDataSet.cpp:(.text+0x6368): undefined reference to `TRandom3::~TRandom3()'

PndMvaDataSet.cpp:(.text+0x648c): undefined reference to `TRandom3::~TRandom3()'

build/PndMvaDataSet.o: In function `PndMvaDataSet::ReadInput()':

PndMvaDataSet.cpp:(.text+0x67d1): undefined reference to `TFile::TFile(char const\*, char const\*, char const\*, int)'

PndMvaDataSet.cpp:(.text+0x6876): undefined reference to `TDirectoryFile::Get(char const\*)'

PndMvaDataSet.cpp:(.text+0x6cce): undefined reference to `TClass::GetClass(std::type\_info const&, bool, bool)'

PndMvaDataSet.cpp:(.text+0x6ce6): undefined reference to `TDataType::GetType(std::type\_info const&)'

PndMvaDataSet.cpp:(.text+0x7054): undefined reference to `TDirectoryFile::Get(char const\*)'

PndMvaDataSet.cpp:(.text+0x746f): undefined reference to `TClass::GetClass(std::type\_info const&, bool, bool)'

PndMvaDataSet.cpp:(.text+0x7487): undefined reference to `TDataType::GetType(std::type\_info const&)'

PndMvaDataSet.cpp:(.text+0x756c): undefined reference to `TFile::~TFile()'

PndMvaDataSet.cpp:(.text+0x774a): undefined reference to `TDirectoryFile::Get(char const\*)'

PndMvaDataSet.cpp:(.text+0x7b83): undefined reference to `TClass::GetClass(std::type\_info const&, bool, bool)'

PndMvaDataSet.cpp:(.text+0x7b9b): undefined reference to



```

`TDataType::GetType(std::type_info const&)'
PndMvaDataSet.cpp:(.text+0x7daa): undefined reference to `TDirectoryFile::Get(char const*)'
PndMvaDataSet.cpp:(.text+0x7dc5): undefined reference to `TDirectoryFile::Get(char const*)'
PndMvaDataSet.cpp:(.text+0x7df4): undefined reference to `TDirectoryFile::Get(char const*)'
PndMvaDataSet.cpp:(.text+0x7e41): undefined reference to `TDirectoryFile::Get(char const*)'
PndMvaDataSet.cpp:(.text+0x7ea5): undefined reference to `TFile::Close(char const*)'
PndMvaDataSet.cpp:(.text+0x7eb2): undefined reference to `TFile::~TFile()'
build/PndMvaDataSet.o: In function
`_GLOBAL__sub_I__ZN13PndMvaDataSetC2ERKSt6vectorISt4pairIISsPS0_IfSalfEEE
SaIS5_EERKS0_ISsSaISsEESD_7AppType':
PndMvaDataSet.cpp:(.text.startup+0x31): undefined reference to
`TVersionCheck::TVersionCheck(int)'
build/PndMvaTools.o: In function `readEvents(char const*, std::vector<std::string,
std::allocator<std::string> > const&, std::vector<std::string, std::allocator<std::string> > const&,
std::vector<std::pair<std::string, std::vector<float, std::allocator<float> >*>,
std::allocator<std::pair<std::string, std::vector<float, std::allocator<float> >*> > >&):
PndMvaTools.cpp:(.text+0xa10): undefined reference to `TFile::TFile(char const*, char const*,
char const*, int)'
PndMvaTools.cpp:(.text+0xa93): undefined reference to `TDirectoryFile::Get(char const*)'
PndMvaTools.cpp:(.text+0xfde): undefined reference to `TClass::GetClass(std::type_info
const&, bool, bool)'
PndMvaTools.cpp:(.text+0xff6): undefined reference to `TDataType::GetType(std::type_info
const&)'
PndMvaTools.cpp:(.text+0x1305): undefined reference to `TFile::Close(char const*)'
PndMvaTools.cpp:(.text+0x1312): undefined reference to `TFile::~TFile()'
PndMvaTools.cpp:(.text+0x135d): undefined reference to `TFile::~TFile()'
build/PndMvaTools.o: In function
`_GLOBAL__sub_I__Z8printRocRKSt6vectorI9ROCPointsSaIS0_EE':
PndMvaTools.cpp:(.text.startup+0x31): undefined reference to
`TVersionCheck::TVersionCheck(int)'
build/PndMvaVarPCATransform.o: In function
`PndMvaVarPCATransform::Transform(std::vector<float, std::allocator<float> > const&) const':
PndMvaVarPCATransform.cpp:(.text+0x59e): undefined reference to `kAssertMsg'
PndMvaVarPCATransform.cpp:(.text+0x5bf): undefined reference to `Fatal(char const*, char
const*, ...)'
build/PndMvaVarPCATransform.o: In function
`PndMvaVarPCATransform::ComputePrincipalComponents(std::vector<std::pair <std::string,
std::vector<float, std::allocator<float> >*>, std::allocator<std::pair<std::string,
std::vector<float,
std::allocator<float> >*> > > const&):
PndMvaVarPCATransform.cpp:(.text+0x742): undefined reference to
`TPrincipal::TPrincipal(int, char const*)'
PndMvaVarPCATransform.cpp:(.text+0x911): undefined reference to
`TPrincipal::AddRow(double const*)'
PndMvaVarPCATransform.cpp:(.text+0x936): undefined reference to
`TPrincipal::MakePrincipals()'
PndMvaVarPCATransform.cpp:(.text+0x940): undefined reference to
`TStorage::ObjectAlloc(unsigned long)'
PndMvaVarPCATransform.cpp:(.text+0x950): undefined reference to
`TVectorT<double>::TVectorT(TVectorT<double> const&)'
PndMvaVarPCATransform.cpp:(.text+0x95e): undefined reference to
`TStorage::ObjectAlloc(unsigned long)'
PndMvaVarPCATransform.cpp:(.text+0x971): undefined reference to

```

```
`TMatrixT<double>::TMatrixT(TMatrixT<double> const&)'
PndMvaVarPCATransform.cpp:(.text+0xa08): undefined reference to `TPrincipal::~TPrincipal()'
PndMvaVarPCATransform.cpp:(.text+0xa5b): undefined reference to `TPrincipal::~TPrincipal()'
PndMvaVarPCATransform.cpp:(.text+0xa6e): undefined reference to `TObject::operator
delete(void*)'
PndMvaVarPCATransform.cpp:(.text+0xa7b): undefined reference to `TObject::operator
delete(void*)'
build/PndMvaVarPCATransform.o: In function
`PndMvaVarPCATransform::SetMeanVector(TVectorT<double> const&)':
PndMvaVarPCATransform.cpp:(.text+0xb4f): undefined reference to
`TStorage::ObjectAlloc(unsigned long)'
PndMvaVarPCATransform.cpp:(.text+0xb5d): undefined reference to
`TVectorT<double>::TVectorT(TVectorT<double> const&)'
PndMvaVarPCATransform.cpp:(.text+0xb7f): undefined reference to `TObject::operator
delete(void*)'
build/PndMvaVarPCATransform.o: In function
`PndMvaVarPCATransform::SetEigenVectors(TMatrixT<double> const&)':
PndMvaVarPCATransform.cpp:(.text+0xbaf): undefined reference to
`TStorage::ObjectAlloc(unsigned long)'
PndMvaVarPCATransform.cpp:(.text+0xbbd): undefined reference to
`TMatrixT<double>::TMatrixT(TMatrixT<double> const&)'
PndMvaVarPCATransform.cpp:(.text+0xbdf): undefined reference to `TObject::operator
delete(void*)'
build/PndMvaVarPCATransform.o: In function
`_GLOBAL__sub_I__ZN21PndMvaVarPCATransformC2Ev':
PndMvaVarPCATransform.cpp:(.text.startup+0x31): undefined reference to
`TVersionCheck::TVersionCheck(int)'
collect2: error: ld returned 1 exit status
make: *** [examples] Error 1
make: Target `all' not remade because of errors.
make: Leaving directory `/home/kang/GSI/pandaroot_oct12/PndTools/MVA'
```

---

Subject: Re: make for PndTools/MVA

Posted by [Stefano Spataro](#) on Tue, 08 Jan 2013 17:37:57 GMT

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Why are you compiling MVA from such folder? MVA is already compiled in the general PandaRoot build, with the standard make.

---

Subject: Re: make for PndTools/MVA

Posted by [donghee](#) on Tue, 08 Jan 2013 21:17:10 GMT

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Hi Stefano,

If I do not need to have any trained data then I should just play with the macro's, since the classification functions are build as a library in PANDARoot and loaded as standard place as you mentioned.

But I don't have trained data and have to do myself for my data sample in my understanding. I learned that in PndTools/MVA/build one can find some classifying tools as a binary executable to prepare such training. Therefore I tried to make this part. Is there some way to get trained data from standard build location? If yes, it would be really great.

Best wishes,  
Donghee

---

Subject: Re: make for PndTools/MVA  
Posted by [donghee](#) on Tue, 08 Jan 2013 21:20:42 GMT  
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Hi Stefano,

If I do not need to have any trained data then I should just play with the macro's, since the classification functions are built as a library in PANDARoot and can load from standard place (under buildpanda), as you mentioned.

But I don't have trained data and have to do myself for my data sample in my understanding. I learned that in PndTools/MVA/build one can find some classifying tools as a binary executable to prepare such training. Therefore I tried to make this part.

Is there some way to get trained data from standard build location? If yes, it would be really great and will try with them.

Best wishes,  
Donghee

---

Subject: Re: make for PndTools/MVA  
Posted by [StefanoSpataro](#) on Tue, 08 Jan 2013 21:28:08 GMT  
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Ask Mohammad Babai, but I believe you can do whatever with pandaroot MVa classes, such build is only if you want to run MVa standalone. Just send Mohammad a mail.

---

Subject: Re: make for PndTools/MVA  
Posted by [StefanoSpataro](#) on Tue, 08 Jan 2013 21:30:08 GMT  
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Ask Mohammad Babai, but I believe you can do whatever with pandaroot MVA classes, such build is only if you want to run MVA standalone. Just send Mohammad a mail.

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Subject: Re: make for PndTools/MVA

Posted by [Malgorzata Gumberidze](#) on Wed, 09 Jan 2013 08:49:30 GMT

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Dear Donghee,

So maybe i can help you a little bit since i was using MVA. In principle for the training i was using standard TMVA macro which you can find in any root distribution. And for this you do not need to compile PndTools/MVA. This macro you can find in the following directory inside external package:

1. macro in you want to consider only signal/background case:  
tools/root/tmva/test/TMVAClassification.C

2. this is if you want to make training on more than just signal/background  
tools/root/tmva/test/TMVAMulticlass.C

In attachment i also add my Makefile from PndTools/MVA and with that i can compile it on with my local installation on mac.

If you have any other question i can try to help.

greetings,  
gosia

---

### File Attachments

1) [Makefile](#), downloaded 227 times

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Subject: Re: make for PndTools/MVA

Posted by [donghee](#) on Wed, 09 Jan 2013 11:58:57 GMT

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Dear Malgorzata,

Thank you for your kind advice.  
Using directly ROOT, that is a nice option to me.

I tried to make with new Makefile what you gave me, but it does not help.  
I can have 33 object files (below) from both making, but still same trouble at linking, where executable binaries will be created.  
My OS is ubuntu 12.10 64bit, I think my library connection of root via fairsoft might have some problem.

Best wishes,  
Donghee

Quote:

bdtClassify.o  
bdtTrain.o  
classifyPrzWin.o  
classifyStdKnn.o  
CreateRandomDataSet.o  
exampleCluster.o  
examplePCATransform.o  
KnnClassifyModified.o  
KnnClassify.o  
KnnTrain.o  
LVQclassify.o  
LVQtrain.o  
mlpClassify.o  
mlpTrain.o  
PndKnnClassify.o  
PndKnnTrain.o  
PndLVQClassify.o  
PndLVQTrain.o  
PndMultiClassBdtClassify.o  
PndMultiClassBdtTrain.o  
PndMultiClassMlpClassify.o  
PndMultiClassMlpTrain.o  
PndMvaClassifier.o  
PndMvaCluster.o  
PndMvaDataSet.o  
PndMvaTools.o  
PndMvaTrainer.o  
PndMvaUtil.o  
PndMvaVarPCATransform.o  
PndProjectedKNN.o  
PndPrzWindowClassify.o  
PndStdKnnClassify.o  
Prclassify.o

---

Subject: Re: make for PndTools/MVA  
Posted by [M.Babai](#) on Wed, 09 Jan 2013 20:18:00 GMT  
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Dear Donghee,

According the listing you have mailed me and posted here, the compiler can find the header files. This way compilation goes fine; you see that the object files are created correctly. During the linking, the compiler can not find the libraries. That is the reason for the error; at least as far as I can see; I can merely not reproduce this error.

Furthermore, in your setting of the lib paths I see you are using "{}+" characters. In bash you don't need them for this purpose, as they have another meaning.

```
export
LD_LIBRARY_PATH=${ROOTSYS}/lib${LD_LIBRARY_PATH:+:${LD_LIBRARY_PATH}}
export LD_LIBRARY_PATH=${ROOTSYS}/tools/root/lib:${LD_LIBRARY_PATH}}
```

This way if the paths are correct on your PC, then you can change the exports as following:

```
export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:$ROOTSYS/tools/root/lib
```

One other option is just to call the "/buildPandaDir/config.sh" script. This one also should set the paths correctly.

A third option is to add following lines to your .bashrc:

```
export SIMPATH=PATH_TO_FAIRROOT_INSTALLATION_DIR
export PATH=$PATH:$SIMPATH/bin
export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:$SIMPATH/lib:$SIMPATH/lib/root
```

I hope this will solve your problem.

Regards,  
MB

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Subject: Re: make for PndTools/MVA  
Posted by [donghee](#) on Tue, 15 Jan 2013 13:53:10 GMT  
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Dear Mohammad,

I have tested my machine, then I realized that root in Fairsoft under ubuntu12.10 has a problem, and is related to newest version of ubuntu OS.

In other machine with older ubuntu, I don't have such problems.  
After new installation of Fairsoft under ubuntu 12.10, I cannot even merge some histograms, but during configuraiton of fairsoft I didn't see any trouble in the log file after installation.

```
*** Package root is OK ***
*** End installation of external packages without Errors***
```

Anyhow, thank you for your help for this problem during last couple of weeks.

Best wishes,  
Donghee

---