CDE: Automatically create portable software packages

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MLDemos

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Downloads

Most likely this is what you're here for, so...

Binaries:

MLDemos 0.3.1 for Windows
minimum requirements: XP SP3 + VCredit2008

MLDemos 0.3.1 for Mac
minimum requirements: Snow Leopard

MLDemos 0.1.3 for Linux 32bit (deb)
built for: Ubuntu 10.04

Sources:

GIT repository (current release 0.3.1)
source backup (0.3.0)

The code was created originally on Visual Studio, and therefore generates a ludicrous amount of warnings with GCC...
The software was compiled and tested on Windows XP/7, Ubuntu and Kubuntu 10.04, Gentoo and Mac OSX Snow Leopard, using QtCreator 1.3 and 2.1.

Requirements
The code requires Qt (4.6) and OpenCV (2.1). Previous versions of both libraries might work as well but you might as well use the newer version.
Be sure to adjust your include and lib paths to point them to the correct directories.
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Installation fails on both neighboring releases of Ubuntu (9.10 and 10.10).
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CDE: Automatic packaging of Code, Data, and Environment

1. Create package on your x86-Linux computer
   Prepend any set of commands with `cde`, and CDE runs them and automatically packages up their dependencies.

2. Transfer package
   A package is simply a directory of files.

3. Execute software from within package on any modern x86-Linux computer
   Prepend those same commands with `cde-exec`, and CDE runs them natively.
The diagram shows the relationship between cde and a monitored process. The cde process uses ptrace to monitor the monitored process. Events that are monitored include `chdir("foo/")` and `open("/lib/libc.so.6")`. The monitored process interacts with the kernel to perform these operations.
cde MLDemos

2006  2007  2008  2009  2010  2011

Ubuntu 10.04
cde ML Demos
The diagram illustrates the process of using `cde-exec` ML Demos. It shows how `cde-exec` interacts with a monitored process through `ptrace`. The monitored process makes system calls `chdir("foo/")` and `open("/lib/libc.so.6")`. The interaction is facilitated by calls to the kernel.
2006
2007
2008
2009
2010
2011
openSUSE
pgbovine@debian:~$ uname -sr
Linux 2.6.26-2-686 #1 SMP Thu Nov 25 01:53:57 UTC 2010
pgbovine@debian:~$ ./.cde-exec ML Demos
Fedora
knoppix@1[cde-root]$ uname -srv
Linux 2.6.17 #4 SMP PREEMPT Wed May 10 13:53:45 CEST 2006
knoppix@1[cde-root]$ .../cde-exec MLDemos

MLDemos

Clustering Methods

K-Means  GMM  Kernel

Clusters
Method

metric  power  beta

L2 norm  3  10.00

samples: 280 (o:000|x:280) | x: 0.358 y: 0.309
Limitations:

- Incomplete
- Slower (2% - 30%)

x86 ➞ x86, Linux 2.6 ➞ Linux 2.6
Downloads

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Binaries:

MLDemos 0.3.2 for Windows
minimum requirements: XP SP3

MLDemos 0.3.3 for Mac
minimum requirements: Snow Leopard

MLDemos 0.3.2 CDE
requirements: kernel 2.6.X
thanks to Philip Guo!

The Linux binaries have been packaged with CDE (website here), a packaging tool that allows to easily create self-containing software and scripts on x86-linux machines. To run it:
1.) Download package
2.) tar -jxvf MLDemos-0.3.2-cde.tar.bz2
3.) MLDemos-0.3.2-cde/mldemos

In its current form, the CDE package does not allow loading and saving of external files, but every other functionality works. A big thanks to Philip Guo for making this tool possible!

Sources:

GIT repository (current release 0.3.3)
source_backup (0.3.0)
CDE: Automatic packaging of Code, Data, and Environment

2500+ downloads
(Google for “cde linux”)

Real-world use cases:
Sharing prototype software
Reproducing research experiments
Running new software on older distros
Deploying computations to cluster/cloud
Distributing class programming assignments