AMD **Accelerated** Parallel Processing TECHNOLOGY

SAMPLE

OpenCV-CL Introduction

1 Overview

1.1 Location

`$<APPSDKSamplesInstallPath>\samples\opencv\`

1.2 How to Run

See the *Getting Started* guide for how to build samples. You first must compile the sample.

Use the command line to change to the directory where the executable is located. The pre-compiled sample executable is at `$<APPSDKSamplesInstallPath>\samples\opencv\bin\x86\` for 32-bit builds, and `$<APPSDKSamplesInstallPath>\samples\opencv\bin\x86_64\` for 64-bit builds.

Type the following command(s).

1. `OpenCV-CLIntro`
   This command runs the program with the default options.

2 Introduction

This introductory sample demonstrates how to use OpenCV and OpenCV-CL functions in an OpenCV program. The OpenCL support has been added to the OpenCV library, allowing users to accelerate their OpenCV programs by using OpenCL kernels on an AMD GPU.

3 Implementation Details

This example uses image filters to introduce OpenCV-CL. The overloaded "=" operator supports copying from an OpenCV matrix (or CPU) to an OpenCV-CL matrix (or GPU), and vice versa.

To demonstrate Morphology using the `cv::ocl::` functions, the `cv::ocl::erode` and `cv::ocl::dilate` functions are applied on the input image and the results are subtracted using the overloaded "-" operator.

Box Filter and Laplacian Filter can be run on AMD GPUs by using the OpenCV-CL APIs, `cv::ocl::boxFilter` and `cv::ocl::Laplacian` functions. The results are validated by running the same filters on the CPU by using the OpenCV APIs, `cv::boxFilter` and `cv::Laplacian`. The `NORM_INF` of the results obtained by using the OpenCV-CL functions and the OpenCV functions is calculated.

Contact

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