

**NAME**

nvidia::ml – Perl bindings to NVML, the NVIDIA Management Library

**SYNOPSIS**

```
use nvidia::ml qw(:all);

nvmlInit();

($ret, $version) = nvmlSystemGetDriverVersion();
die nvmlErrorString($ret) unless $ret == $nvidia::ml::bindings::NVML_SUCCESS;
print "Driver version: " . $version . "\n";

($ret, $count) = nvmlDeviceGetCount();
die nvmlErrorString($ret) unless $ret == $nvidia::ml::bindings::NVML_SUCCESS;

for ($i=0; $i<$count; $i++)
{
    ($ret, $handle) = nvmlDeviceGetHandleByIndex($i);
    next if $ret != $nvidia::ml::bindings::NVML_SUCCESS;

    ($ret, $speed) = nvmlDeviceGetFanSpeed($handle);
    next if $ret != $nvidia::ml::bindings::NVML_SUCCESS;
    print "Device " . $i . " fan speed: " . $speed . "%\n";

    ($ret, $info) = nvmlDeviceGetMemoryInfo($handle);
    next if $ret != $nvidia::ml::bindings::NVML_SUCCESS;
    $total = ($info->{"total"} / 1024 / 1024);
    print "Device " . $i . " total memory: " . $total . " MB\n";
}

nvmlShutdown();
```

**DESCRIPTION**

Provides a Perl interface to GPU management and monitoring functions.

This is a wrapper around the NVML library. For information about the NVML library, see the NVML documentation.

**REQUIRES**

Exporter

**EXPORTS**

This module has no exports. To add functions and constants to your namespace use: `use nvidia::ml qw(:all);`

**METHODS**

See EXPORTS and NVML documentation. Perl methods wrap NVML functions, implemented in a C shared library. The functions use is the same with the following exceptions:

Perl methods accept the input arguments of the C function it wraps only. All C function output parameters are returned after the return code, left to right

```
C:
nvmlReturn_t nvmlDeviceGetEccMode(nvmlDevice_t device,
                                   nvmlEnableState_t *current,
                                   nvmlEnableState_t *pending);

Perl:
($ret, $current, $pending) = nvmlDeviceGetEccMode($device);
```

Perl handles string buffer creation

```
C:
    nvmlReturn_t nvmlSystemGetDriverVersion(char* version,
                                           unsigned int length);

Perl:
    ($ret, $version) = nvmlSystemGetDriverVersion();
```

C structs are converted to Perl hashes, nested as needed

```
C:
    nvmlReturn_t DECLDIR nvmlDeviceGetMemoryInfo(nvmlDevice_t device,
                                                  nvmlMemory_t *memory);

typedef struct nvmlMemory_st {
    unsigned long long total;
    unsigned long long free;
    unsigned long long used;
} nvmlMemory_t;

Perl:
    ($ret, $memory) = nvmlDeviceGetMemoryInfo($device);
    print "Total memory " . $memory->{"total"} . "\n";
    print "Used memory " . $memory->{"used"} . "\n";
    print "Free memory " . $memory->{"free"} . "\n";
```

## VARIABLES

See EXPORTS and NVML documentation. All NVML constants and enums are exposed.

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