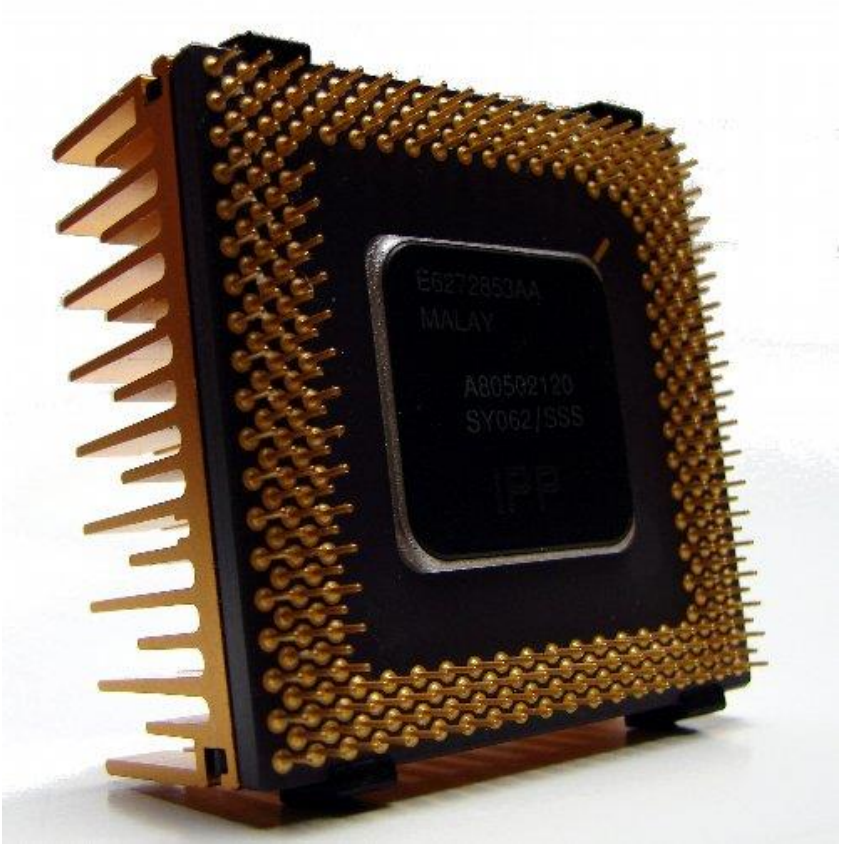
# ADDITIONAL STUDY MATERIAL P-IV

- **CUDA installation**

PRACTICAL 1



2017

## GPGPU programming project

P-IV. Routine implementation with CUDA for algorithm acceleration in GPGPU

**Computer architecture**
Degree in Computer Engineering
Computer Technology department
University of Alicante

# ADDITIONAL STUDY MATERIAL P-IV

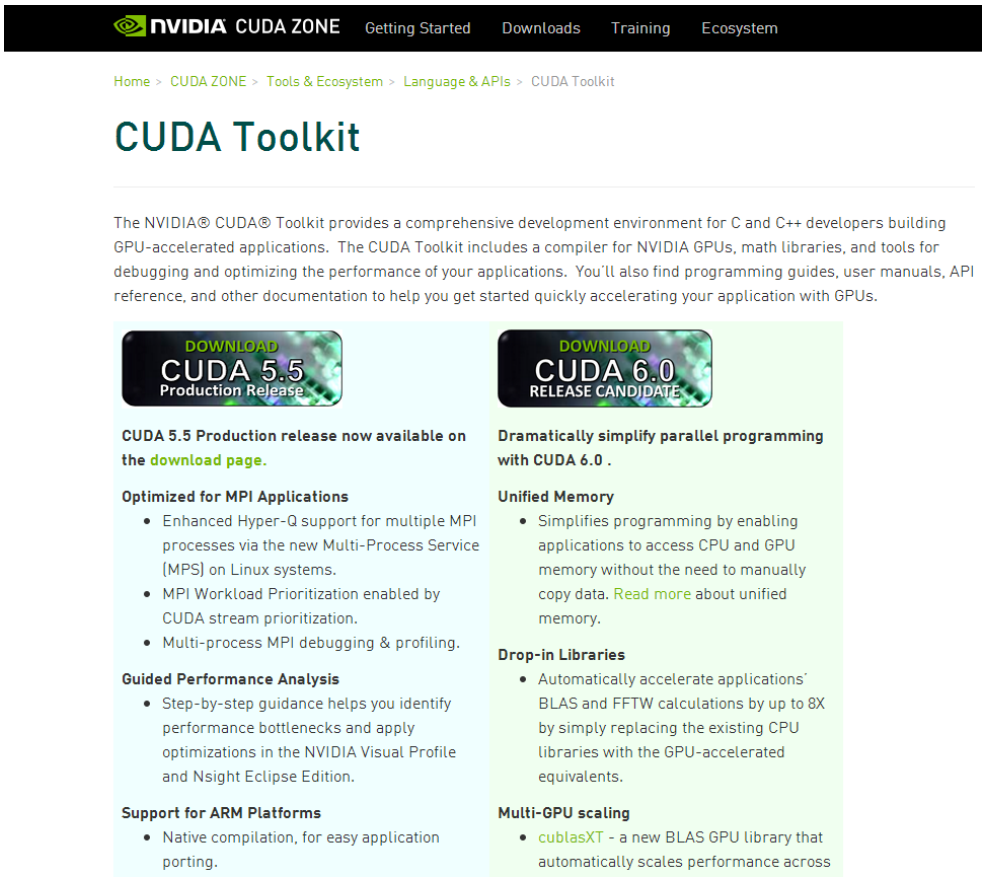
ALGORITHMS ACCELERATION PROJECT USING GPGPU

## I. DOWNLOAD

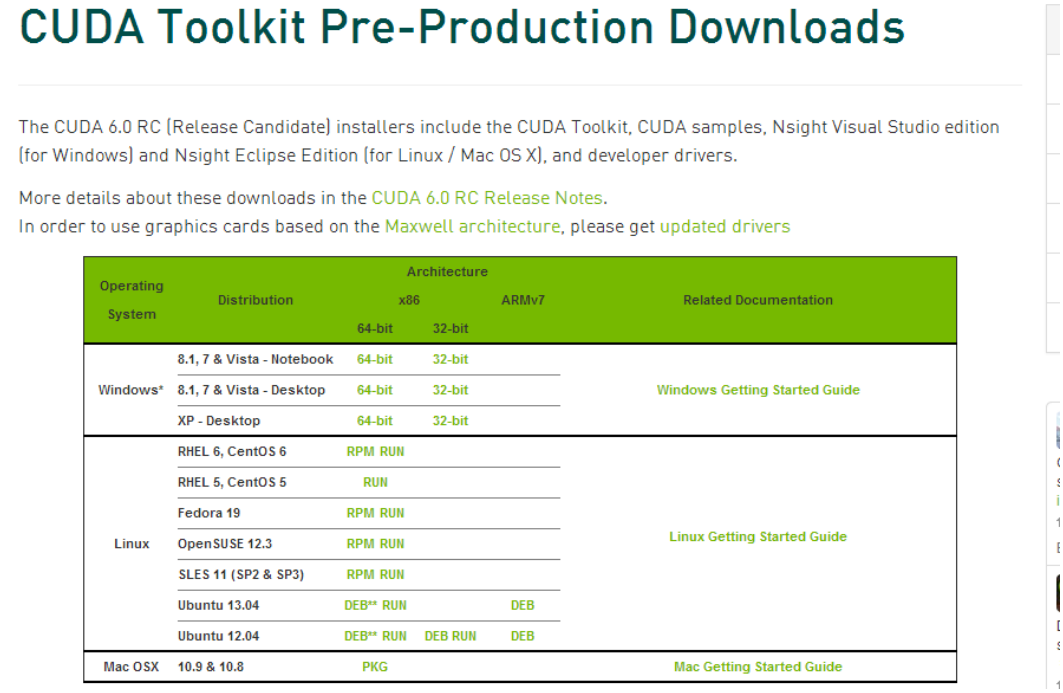
The first thing is to download the CUDA SDK from the oficial website:

https://developer.nvidia.com/cuda-toolkit

Once here, select the latest version of the toolkit



Then it will appear a page like the next:



# CUDA Toolkit Pre-Production Downloads

The CUDA 6.0 RC (Release Candidate) installers include the CUDA Toolkit, CUDA samples, Nsight Visual Studio edition (for Windows) and Nsight Eclipse Edition (for Linux / Mac OS X), and developer drivers.

More details about these downloads in the CUDA 6.0 RC Release Notes.
In order to use graphics cards based on the Maxwell architecture, please get updated drivers

| Operating System | Distribution | Architecture | | | Related Documentation |
|---|---|---|---|---|---|
| | | x86 | | ARMv7 | |
| | | 64-bit | 32-bit | | |
| Windows* | 8.1, 7 & Vista - Notebook | 64-bit | 32-bit | | Windows Getting Started Guide |
| | 8.1, 7 & Vista - Desktop | 64-bit | 32-bit | | |
| | XP - Desktop | 64-bit | 32-bit | | |
| Linux | RHEL 6, CentOS 6 | RPM RUN | | | Linux Getting Started Guide |
| | RHEL 5, CentOS 5 | RUN | | | |
| | Fedora 19 | RPM RUN | | | |
| | OpenSUSE 12.3 | RPM RUN | | | |
| | SLES 11 (SP2 & SP3) | RPM RUN | | | |
| | Ubuntu 13.04 | DEB** RUN | | DEB | |
| | Ubuntu 12.04 | DEB** RUN | DEB RUN | DEB | |
| Mac OSX | 10.9 & 10.8 | PKG | | | Mac Getting Started Guide |

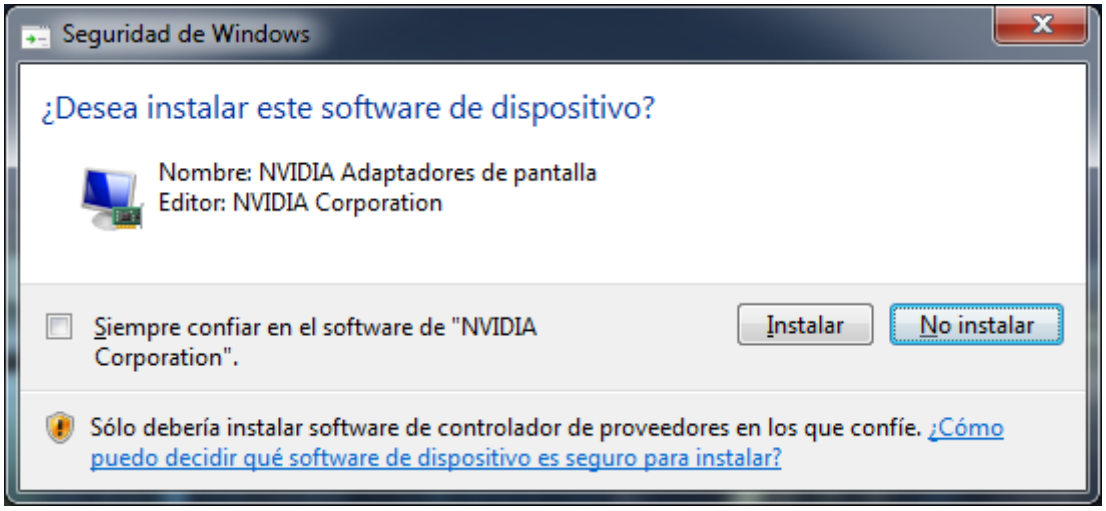
In it, select and download the proper version for your computer.

## II. INSTALLATION

Go to the folder where the CUDA toolkit has been downloaded and execute it. Use the default folder for the installation despite it is a "temp" place.

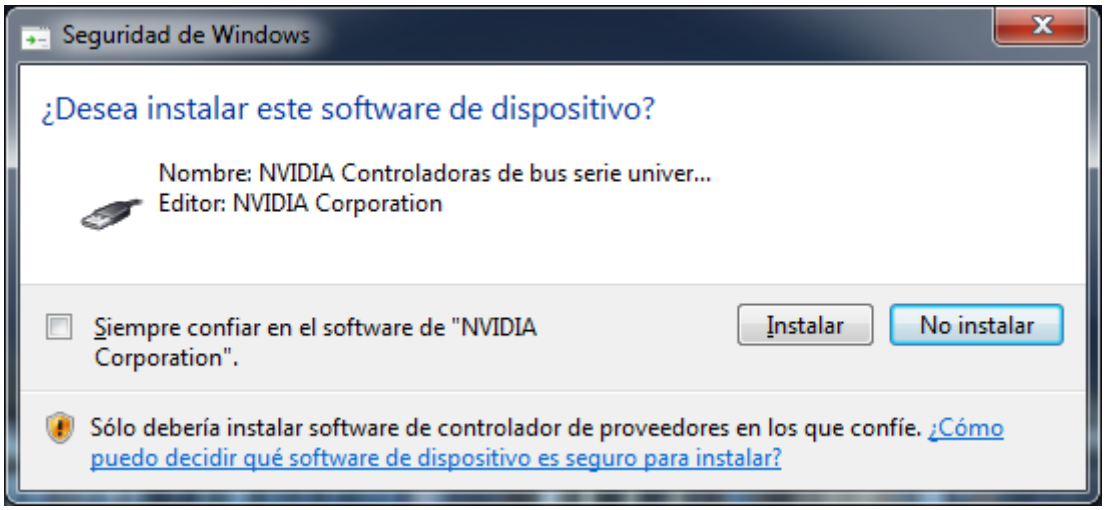
After few minutes a window like the next appear, select the Express installation and it will start installing.

Continue the installation accepting to install the software for the device.



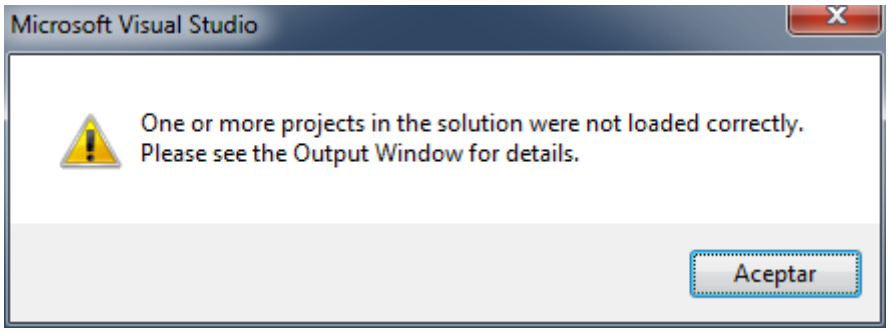

NOTE → It is normal if the screens blink or shut down few times.

Continue the installation accepting to install bus driver for NVIDIA



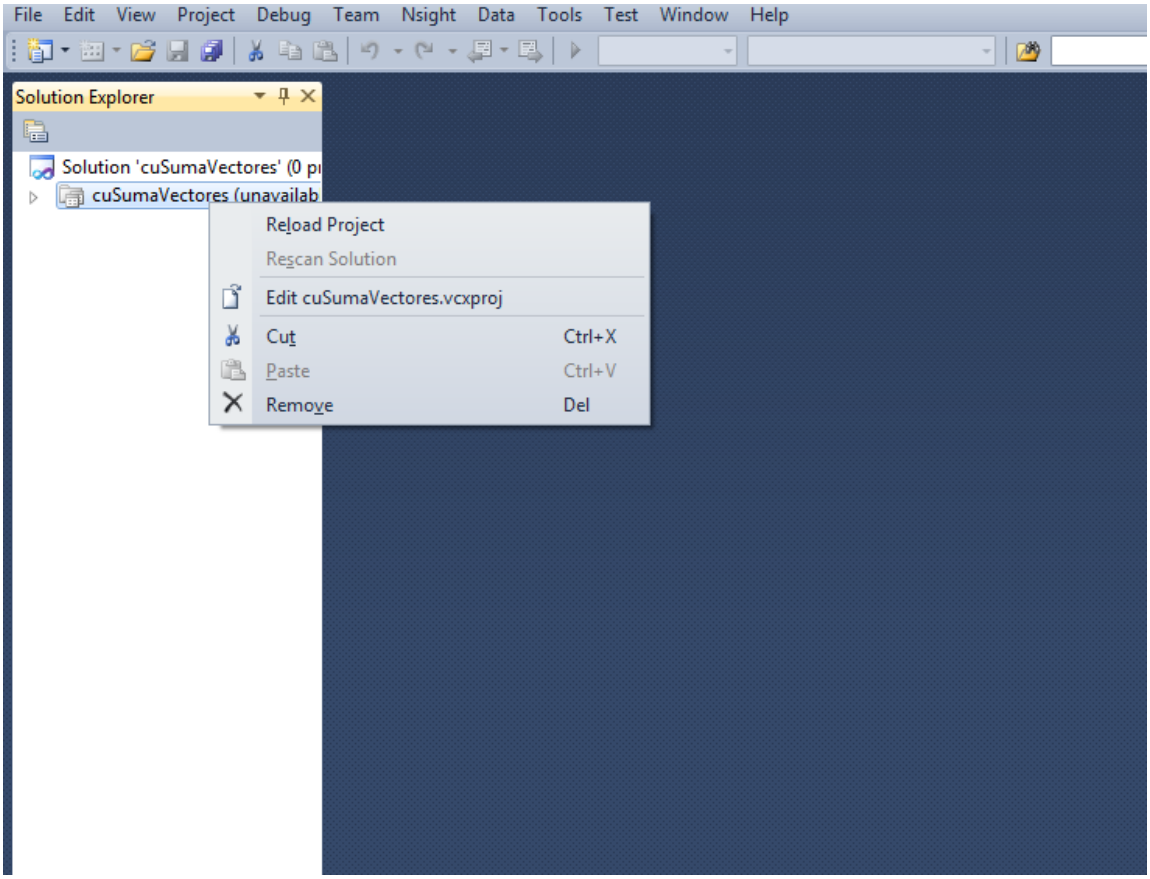

## III. VISUAL STUDIO

Execute the solution of the Project (in this case cuSumaVectores.sln). Once the VS2010 starts a warning appears




Continue accepting this notification and the VS2010 will open the solution.

Click with the right button over the solution and in the menu select “Edit project_name” (Edit cuSumaVectores.vcxproj)




A tagged document will be opened. Find the following instruction and change the version of the CUDA for the one you have downloaded previously.

Original:

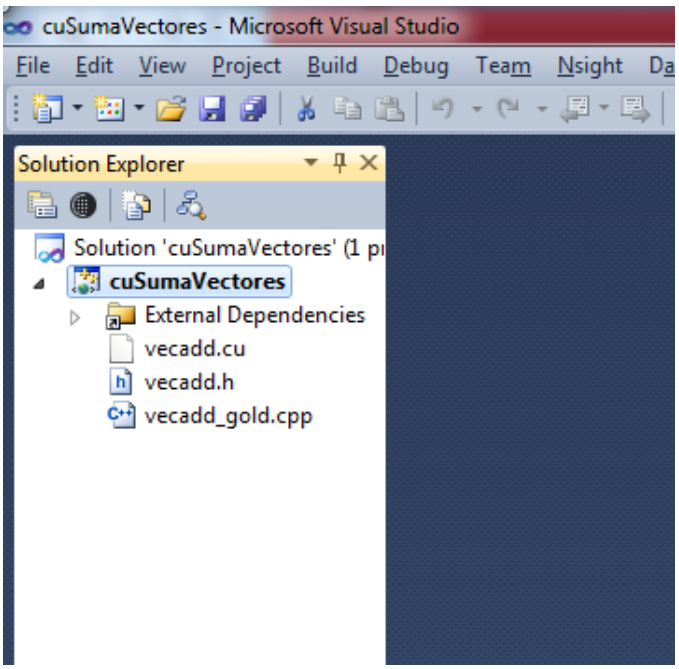
```
<Import Project="$(VCTargetsPath)\BuildCustomizations\CUDA 5.0.props" />
<Import Project="$(VCTargetsPath)\BuildCustomizations\CUDA 5.0.targets" />
```

Replace for this in case of CUDA version 6:

```
<Import Project="$(VCTargetsPath)\BuildCustomizations\CUDA 6.0.props" />
<Import Project="$(VCTargetsPath)\BuildCustomizations\CUDA 6.0.targets" />
```

Save the changes and click again with the right button over the project as before and select “Reload Project”.

Now you will see all the solution with the files of it.


cuSumaVectores - Microsoft Visual Studio
File Edit View Project Build Debug Team Nsight Da
Solution Explorer
Solution 'cuSumaVectores' (1 pr
cuSumaVectores
External Dependencies
vecadd.cu
vecadd.h
vecadd_gold.cpp