

# AccessData AI Server

---

Revised: 5/26/2020

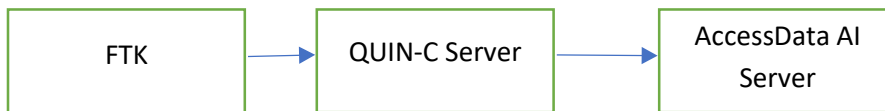
AccessData AI server is built on top of Google's TensorFlow technology. It provides the capability to train on custom objects and/or faces by creating an AI model. This AI model can be used later to identify similar images within the case. Once a model is created, it can be utilized across any number of cases. The AccessData AI server exposes a simple Rest API, which is used by Quin-C.

There are 4 operations that can be performed with the Imaging AI.

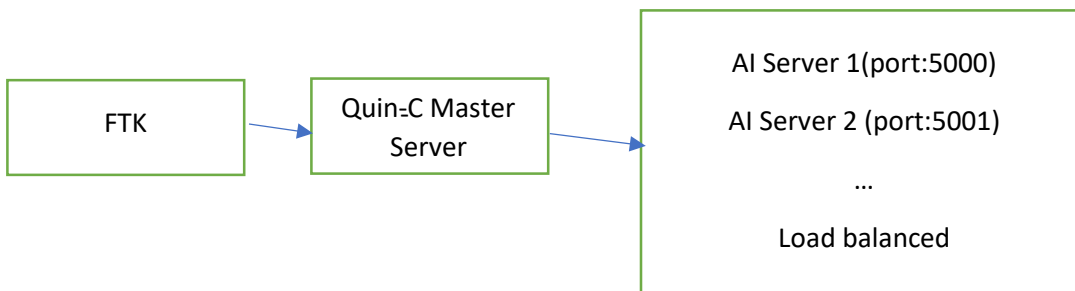
- 1) Object training
- 2) Object recognition
- 3) Face training
- 4) Face recognition

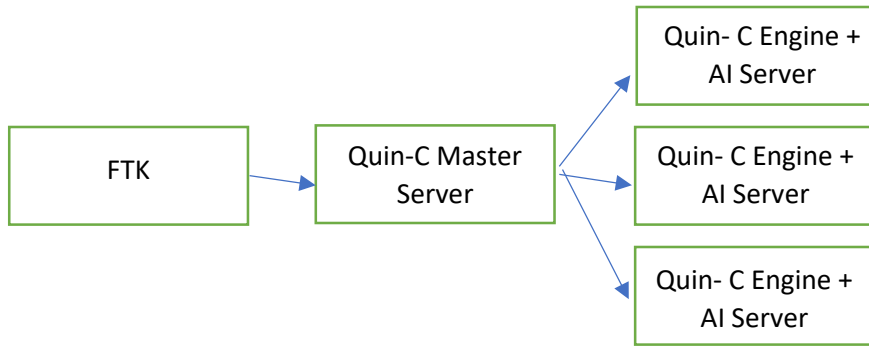
FTK submits AI operations to the Quin-C server, which in turn executes the operation on the AI server. To speed up the performance of the object and face recognition, the AI Server can be installed on multiple servers and also a single server can host multiple AI Servers on different ports. Quin-C server has a configuration option for connecting to the AI Engine.

## Simple Model



## High Performance Models



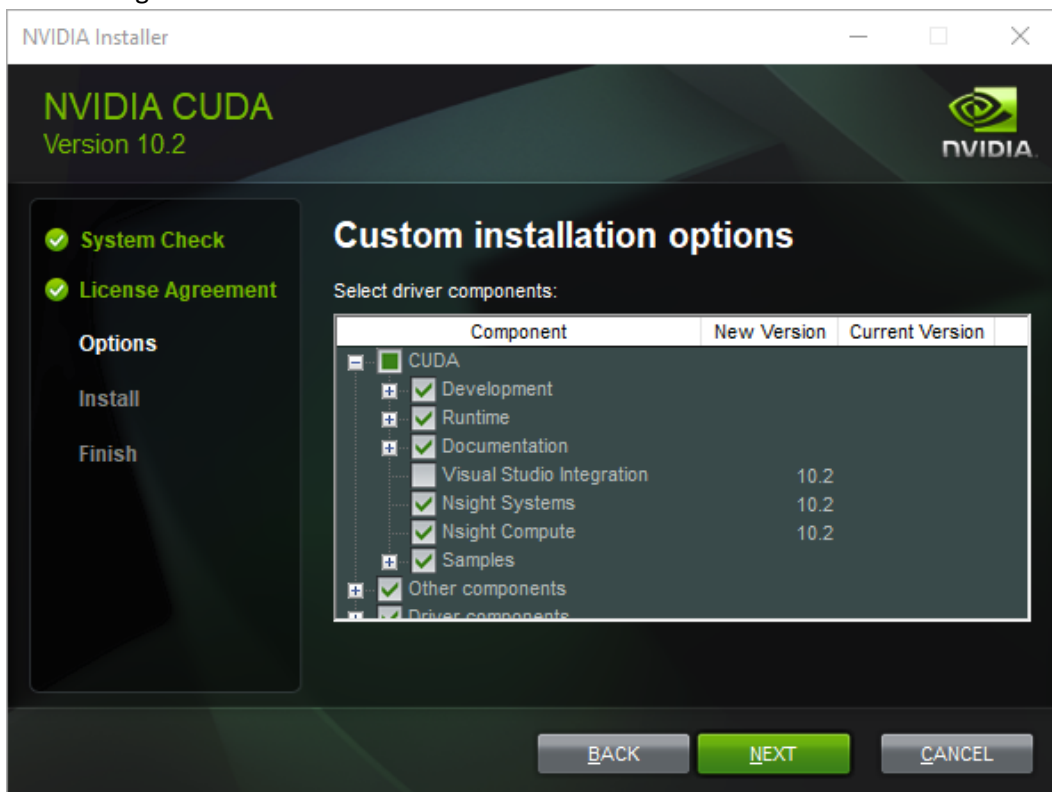


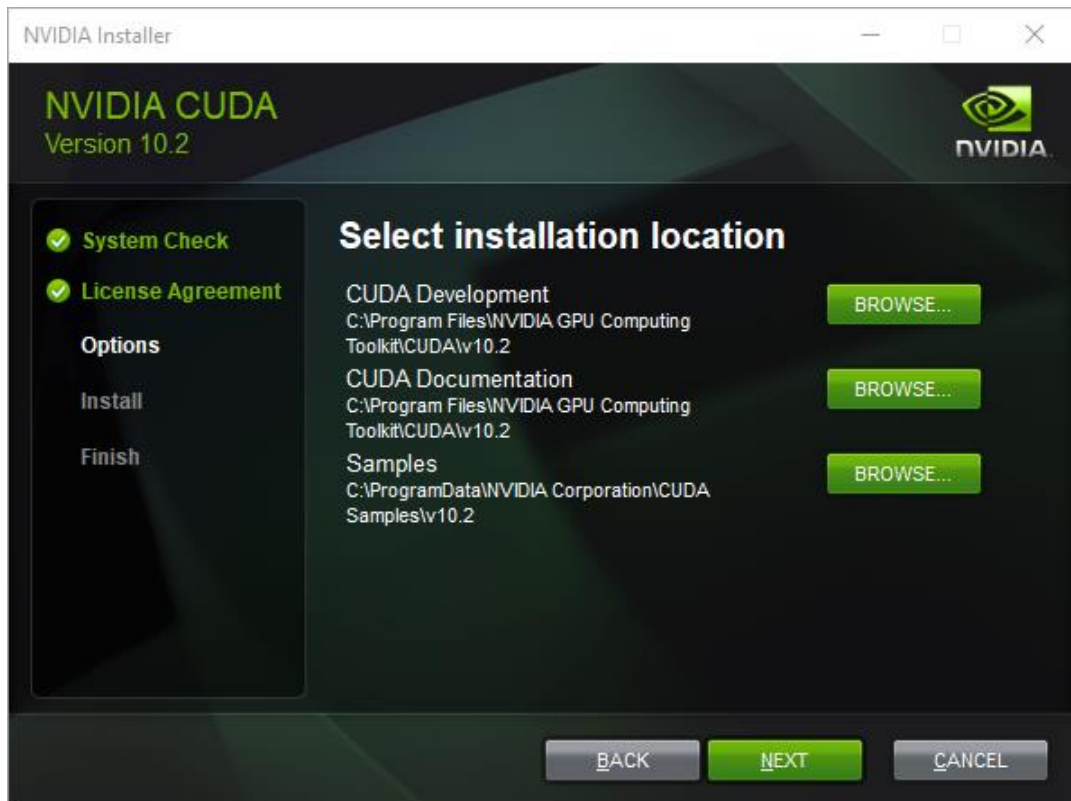
NVIDIA CUDA GPU acceleration prerequisites:

TensorFlow can speed up the image recognition process by utilizing a CUDA enabled NVIDIA GPU, so if the target machine has a GPU that is on this list <https://developer.nvidia.com/cuda-gpus>, then you can install the required NVIDIA software before installing TensorFlow.

1. Download CUDA 10.0 from here <https://developer.nvidia.com/cuda-downloads>

Once downloaded, run the installer, choose a custom install, and deselect the option of 'Visual Studio Integration'. Also make a note of the install location





2. Once installed, you will need to download cuDNN from here <https://developer.nvidia.com/cudnn>.
3. Once cuDNN is downloaded, open the archive, and copy the following files to the following locations within the CUDA install location:
  - a. `...\cuDNN\cuda\bin\cudnn64_7.dll` to `[CUDAINSTALLLOCATION]\v10.2\bin\`
  - b. `...\cuDNN\cuda\include\cudnn.h` to `[CUDAINSTALLLOCATION]\v10.2\include\`
  - c. `...\cuDNN\cuda\lib\x64\cudnn.lib` to `[CUDAINSTALLLOCATION]\v10.2\lib\x64\`

Once completed, the system should have all of the files required to run GPU accelerated TensorFlow. You can now run the AD Image Recognition installer (AccessData\_AI\_Server.exe).